THE

Journal of the American Medical Association.

EDITED UNDER THE DIRECTION OF THE BOARD OF TRUSTEES.

PUBLISHED WEEKLY.

VOL. XIII. CHICAGO, AUGUST 17, 1889. No. 7.

ADDRESSES.

THE NEED OF DISCUSSING OPHTHALMIC SUBJECTS.

An Address delivered before the Section of Ophthalmology of the American Medical Association, June 25, 1889.

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It is my pleasant duty, respected colleagues, to welcome you as you commence the second decade of work in this Section. Believing that those of like tastes and pursuits can develop best by occasional reunions and interchange of views, the ophthalmologists of the American Medical Association met and organized this Section at the meeting in Buffalo, in 1878. Drs. X. C. Scott, of Cleveland, Eugene Smith, of Detroit, and Dudley S. Reynolds, of Louisville, were the originators of the movement. Dr. H. Knapp, of New York, was elected Chairman, and Dr. X. C. Scott, of Cleveland, was made Secretary. The first meeting of the Section for actual work was at Atlanta, Ga., May, 1879.

The late Dr. E. Williams, of Cincinnati, was among those who contributed papers for this meeting, and he was made Honorary President of the Section. He has been called the father of specialism in this country. He was the first man ever appointed to this special chair in any college this side of the Atlantic. He saw the need of specialism at a time when only the strong man dared to profess it, and against the advice of the majority of his friends, visited the great European cities where ophthalmology was then cultivated. After nearly three years of study with such great teachers as Graëfe, Helmholz, Arlt, Jaeger, Desmarres, Bowman, Critchet and others, he returned to this country to become the pioneer in this specialty. Of this great and good man we have been bereaved since our last meeting. He died Oct. 5, 1888, at Pittsburgh, Pa., at the age of 66. He was engaged in ophthalmic practice in Cincinnati, for more than a third of a century.

A memorial of his life and work will be presented by the proper committee to the Association at some one of the general sessions, but as his labors in this department of medicine, and in establishing this Section of the Association, causes us to feel his loss more perhaps, than others do, it seems proper in this connection, to give this brief notice of his life, and pay this tribute to his memory.

At first it was found necessary to include with ophthalmology, otology and laryngology, and the resolution by which the Section was established, called for a change in the organization of the society, by which there was added to the five then existing Sections, a Section for Ophthalmology, Otology and Laryngology, which should be known and designated as Section 6.

For ten years the laborers in these last named specialties met with this Section, and contributed to its success. It was with much regret that we yielded to the necessity of providing more time for the reading and discussion of papers, and parted company with these esteemed co-laborers, who last year established a new Section, in which they will work for the first time during the present meeting of this Association.

During this meeting the work of our Section, will, for the first time in its history, be confined wholly to the consideration of ophthalmic subjects. From the programme placed before us, it will be shown that there is an abundance of work, and if our time is not fully occupied in profitable debate it will be our own fault. We have as many papers to be read and considered at this meeting of the Section as we have usually had before, and upon subjects of as great interest, and requiring as much attention as when our work embraced a wider range. This illustrates the fact that science grows deeper as its boundaries extend, and that a still further subdivision of labor becomes necessary in order to carry its work forward with the greatest success.

Fear has, ocasionally, been expressed, that with such limited fields of labor in the different Sections, the subjects introduced will become hackneyed, and lose their interest, and that discussion of them will cease to be either profitable or pleasing. But discussion was never more called for in ophthalmic subjects than at the present time. No subject should be abandoned until the ultimate truth is reached, and uniformity of views are established, however hackneyed it may seem to be. We should eschew no scientific sub-

ject as trite while any of its principles are vague and unsettled.

We shall see, as we continue the work of these meetings, that there are enough mooted questions to engage all our attention, and that however extensive our wisdom or experience, it will be sufficiently taxed in attempts made to reconcile the conflicting views that may be presented.

Dr. Hotz, in his address last year, very cogently called attention to the fact that we were challenged to defend many of the doctrines that we had supposed to be very firmly established. The record of the past year has not been such as to change the state of affairs then existing. Even the value of specialism, itself, and the right of its followers to exist as a separate and independent class of practitioners, is still called in question. The qualifications that should entitle one to the right of being regarded as a specialist is also still a mooted subject. Much of value has been written upon these subjects during the past year, and the relation that should exist between the specialist and general practitioner, and also the kind of training and the qualifications that *each* should have, have been discussed. This is labor in the right direction. There are no more important subjects that can engage our attention than these, and upon their correct solution depends the future progress of ophthalmic science and art more, perhaps, than upon any others. There is no disguising the fact that the lack of sufficiently extensive mutual sympathy, and of coöperation between the family physician and the specialist is not only one of the great drawbacks to the practical usefulness of specialism, but one of the greatest obstacles to its scientific progress.

I need not enter upon a defense of specialism before this audience, composed, as it is, of those who devote themselves to the cultivation of one of the most successful of them all. You, who have limited, to a great extent, your investigations to this one small organ, know how necessary it is, to limit judiciously the field of observation in order to interrogate nature successfully, and learn from her, her secrets.

In every other department of human knowledge the necessity of such a division of labor has long been recognized. In medicine, however, it is even now grudgingly admitted, though it has furnished such abundant proof as to its value and necessity. Notwithstanding the victories won, and honors achieved by specialism, they are too recent, and too grudgingly admitted to warrant its friends in ceasing their efforts to secure for it a just recognition.

It is now more than a hundred years (1773) since Joseph Barth was appointed lecturer on ophthalmic surgery in the University of Vienna, and from this we may justly date the beginning of modern scientific ophthalmology.

Getting his first inspiration, as Fusch tells us,[1] from a few lectures delivered by Wenzel, who had been called from Paris to Vienna, to settle a dispute between some physicians as to the nature of an eye affection, in the case of one of the great ladies connected with the Court of Maria Theresa, he entered upon this new field with so much enthusiasm that he soon became the most distinguished of its cultivators. He selected Beer as his assistant, and, having imparted to him his enthusiasm, he left him to continue the work he began, and Vienna soon became the centre of modern ophthalmology. Students flocked to this school from all parts of Europe. Yet so slow was the medical world to comprehend the advantage to be derived from such special study and teaching, that it was not until 1804 that the London Ophthalmic Infirmary was established, and it was not thrown open to students until 1810. In America no special instructor in ophthalmology was appointed until 1860, while in Paris, from which the kindling spark went forth, specialism was so violently opposed by the medical faculty of the University, that no teacher of this branch was appointed until 1879.

It is not two score years since in our own country, any man who attempted to limit his practice to a specialty, was ostracised by the profession, and often had to drop it and again join the ranks of the general practitioner. Nor is this spirit of opposition to specialism yet extinct or confined in its manifestation to those without influence. During the past year one of the best known medical writers in an editorial article in a prominent medical journal, revived the old antagonism, and declared that, "The specialist must become a hand-worker, plying his art under the direction of the physician, who calls to his aid the manual dexterity which the one has attained by limiting his practice to a single disease or a single operation." . . . "There is a necessity," he declares, "for an authority superior to the specialist, and the consequent limitation of the latter to a subordinate place." "Is the general practitioner, he asks, "qualified to fulfil this duty? If not, he ought to be so qualified. He *must* be if he expects to hold his proper place in the profession."[2]

This writer would seek to degrade all specialism to the position surgery once occupied—the position of a mere handicraft. The surgeon was at one time allowed to do his work only under the direction of the physician.

By following the lead of Hunter, however, the surgeon has achieved for himself a more independent, honorable and useful position. He decides now for himself what needs to be done, and executes it only when his own judgment dictates it. Surgeons have accomplished this by

[1] History of Ophthalmology in Vienna. See Med. Times and Gazette, 1885, page 692.

[2] Dr. William F. Waugh, in the Philadelphia Medical Times, Dec. 15, 1888, page 204, Editorial Article on Specialism.

laying a proper foundation in the fundamental sciences, and in general medicine also, before limiting their practice to surgical cases alone. The great surgeon must first have been a good general practitioner. By adopting this principle of education, surgery, from occupying an inferior position, its followers being mere "hand-workers" under the directions of the general practitioner, has won the first place in medical rank, and now surgeons even treat their old masters often as inferiors.

The most able articles that have been written within the last year on the subject of specialism, and its relation to general medicine, have advocated a similar training for all specialists, with a view to elevating their position in the profession, and enabling them to accomplish the most for science.[3]

It is on this principle, it is advocated, that ophthalmology must seek to maintain its position and advance as it should. Sir Henry Power struck the key note of more recent sentiment on this point, in 1885, when he said: "If the ophthalmic surgeon of the future is to maintain the reputation and position of his predecessors in this branch of the profession, it appears to me that two things will be necessary: first, that he should possess a sound general knowledge of medicine and surgery, and second, that he should have a good preliminary training in mathematics and physics. . . . "I hold," said he, "that no man should commence ophthalmic practice without long preliminary work in general or dispensary practice, or in the wards of an hospital, and I venture to dwell strongly upon it, because I think there is a tendency amongst the younger members of the profession to regard ophthalmic practice as an easy means of obtaining a livelihood, which is at once less troublesome, clean, and more satisfactory than any other branch of surgery."[4]

His remarks are worthy of consideration, and they seem to be endorsed by most modern writers, and we can do very much to advance ophthalmology by using our influence to control education so that those who come to the study of medicine shall have first received a thorough training in mathematics, physics and the physical sciences, and, that those who enter upon ophthalmic practice, shall first have had an adequate experience in the practice of general medicine and general surgery.

The ophthalmologist must answer, in some degree, to the definition some one has given of a specialist, *i. e.* "One who knows something about everything and everything about something" I commend this subject to the consideration of ophthalmologists as worthy of candid discussion, and demanding a fixed policy and concert of action.

Though no great and brilliant discovery, or opening of any especially new field of research has characterized the history of ophthalmology for the past year, yet in every direction there has been patient, successful and continued labor, and it is by such, that the greatest results have always been accomplished in any department of human thought. It would take some pages of manuscript even to *name* the great army of workers, who have contributed their mite to the common treasury of advancing knowledge, and to do full justice in the way of reviewing their labors would occupy an undue proportion of your time.

Not only have the anatomy and physiology of the eye received due consideration, but almost every disease of the eye has been written upon. Not only have the special journals devoted to ophthalmology been filled with interesting matter, but the journals devoted to general medicine have teemed with valuable articles on ophthalmic subjects, in which either the investigations and experiences of the writers have been recorded, or theories of practice have been discussed. Ophthalmophotography, refraction and school work, detachment of the retina, diseases of the optic nerve, cataract, and the whole catalogue of diseases have been thus considered. Perhaps more attention than usual has been paid to the relation between eye symptoms and diseases, and diseases of the brain and spinal cord. Two papers on our programme will bring these subjects before you, and open for discussion the value of recent observations.

There is an old resolution of the Association to the effect that it shall be the duty of the Chairman of each Section to give an address setting forth the progress for the year in the department of medicine represented by his Section.

This resolution was adopted when the number of Sections was limited to four or five, and the addresses were delivered at the General Meetings of the Association, and not, as now, before the members of the Section only. This resolution has, I think, been generally disregarded during the past few years, perhaps because of the impossibility of fully complying with its requirements. Saying nothing of the numerous subjects that would require attention, and to properly discuss which would extend such an address to an unbearable length, we may ask what *one* man shall presume to decide for you what is progress and what is not? Your Chairman may think certain steps are in the line of progress, but this Section may, after full discussion, think they are retrograde.

Even a return to the old methods is advocated by some as in the line of progress, and this advocacy comes from some who are regarded as among

[3] See article "On the Relation between the General Practitioner and the Consultant, or Specialist," by S. Duncan Bulkley, A.M., M.D., in "Jour. of Am. Med. Association," Feb. 2, 1889, page 155, also, "The Family Physician," by Andrew H. Smith, M.D., Harper's New Monthly Magazine, April, 1889, page 726.

[4] Med. Times and Gazette, 1885, Vol. 3, page 161.

the leaders of thought in our specialty. This is notably true in regard to the operation and after-treatment of cataract.

It is now more than a quarter of a century since Mooren first performed iridectomy as a preliminary measure to flap extraction. The procedure was soon adopted by Von Graefe as a step of his modified linear extraction. The percentage of losses was immediately and greatly lessened, and it has continually decreased since the general adoption of that method of operating. Indeed, it has come to be regarded as one of the great advances in ophthalmic surgery. To-day we are urged to return to the old method. We are assured that iridectomy is an unnecessary mutilation, adding to the dangers and complicating the extraction. "*That the simple extraction is not only the best, but also the safest method of removing cataract.* That the iris spread out as a *velum interpositum* between the corneal section and ciliary body, protect this, the most susceptible part of the eye, from the deleterious substances that may enter through the wound."[5] Statistics have been accumulating during the past year in support of these views that challenge our attention, and demand of us that we discuss anew this old and, as once supposed to be, hackneyed subject. With Carter, and the majority of others who have had experience with both methods of operating, advising the operators to retain the iridectomy as an important step in the operation, while Sweigger, Gayet, Galezowski, Wecker, Knapp and others advise simple extraction, is it a wonder if the beginner hesitates which method to try, confused and discouraged by conflicting opinions regarding the proper operative procedures to be adopted in this old operation, which in its perfection and marvellous success was considered one of the crowning operations of surgery.

But the beginner's perplexity will not end with the operation alone. One author of extensive experience[6] will tell him to bandage both eyes and keep his patient reasonably quiet after the operation. Another operator of large experience will tell him he need only to close the lids of the operated eye with a little plaster and allow the patient to walk about and use the other eye at pleasure. One will lead him to think that his patient may walk five miles immediately after a cataract extraction without increasing the danger.[7] Another of very great experience warns him not to follow such advice.[8] One will tell him that if any cortical matter has been left in the eye he should begin the instillation of atropine after four or five days.[9] Another warns him, from experience, to avoid such instillation, as it is likely to excite a glaucomatous condition under these circumstances.

But we have not time to mention all the conflicting directions the anxious inquirer will find regarding even this one disease and its treatment. The subject of cataract is, then, not trite—it is still a live and debatable one.

Nearly as much discord prevails regarding squint and its treatment.

Although since Dieffenbach made the first operation for the cure of convergent strabismus, in 1839, the subject has been a prominent one among ophthalmologists, yet no sufficient uniformity of views exist in regard to its pathology and treatment. And when at the meeting of the American Ophthalmological Society in 1885, the subject of squint and its treatment came up for discussion, scarcely any two members had the same opinion upon the subject. This diversity of opinion existed upon all the important principles connected with the topic; whether or not there exists such a thing as *amblyopia ex anoposia;* whether it is possible to cure converged squint by the use of atropia and properly-fitting glasses; whether early operations should be performed; and whether the vision of the squinting eye is improved by an operation. Some thought the operation for strabismus was too frequently performed, and that it ought often to be postponed or not performed at all. Others thought if there was anything known with certainty it was how to treat strabismus. Dr. Roosa and others have added somewhat to the statistics and discussion of the subject since then, but none of the questions then the subject of dispute have been settled as they should be. They are all yet open to discussion, and only by further collection of statistics and thorough discussion of all the observed facts, can the truth in regard to them be arrived at and accepted.

How shall we treat hypermetropia, and the resulting asthenopia? This question seemed quite well settled more than a score of years ago by the masterly work of Donders, yet to-day no sufficiently definite rules have been agreed upon and formulated for the guidance of those who are beginners and look to the authorities for light. As a recent writer truly observed, "If we ask how much of the hyperopia should be corrected? the answers exhibit a most befogging diversity of opinion."[10] One so high in authority as Landolt, would allow a patient to use two-thirds or three-fourths of his dynamic refraction. Others declare from experience that this cannot be tolerated by the patient without continued asthenopia. Some will advise full correction of the Ht. Others only partially correct the Ht. Here again the greatest diversity of opinion is experienced as to how large a portion of the Ht. shall be corrected and how much left uncorrected. The rules which

[5] H. Knapp in Archives of Ophthal., March, 1889, p. 11.
[6] Carter, British Med. Jour. Also see Am. Jour. Ophthal., Jan., 1889, pp. 27 and 28.
[7] Prof. W. Cheatham, Jour. Am. Med. Association, Nov. 17, 1888, p. 717.
[8] E. F. Drake Brockman, in Ophthalmic Review, Nov., 1888, p. 334.
[9] Carter. See Am. Jour. Ophthal., Jan., 1889, p. 29.
[10] W. F. Coleman, M.D., Jour. Am. Med. Asso'n., Dec. 29, 1888, page 903.

this writer[10] has culled from the common text-books show the need of further discussion of even this hackneyed subject that some standard rules may be adopted, and the beginner may learn more nearly the ultimate facts from the authors, and not have to acquire them after so many doubts and mistakes in his early practice.

About twenty years ago Von Graefe announced his discovery of iridectomy as a cure for glaucoma. This disease had hitherto been regarded as incurable. For many years the profession thought we had nearly reached the ultimate facts in our knowledge of the pathology of glaucoma and the means of cure. But now those of extensive experience declare that "The pathogeny of this disease is still badly defined, and the therapy is not less uncertain; that neither iridectomies, myotics, nor even sclerotomies give any certain results."[11] The subject of glaucoma is not worn out. It needs further observation and further earnest discussion to get at the ultimate facts and establish the scientific principles of its pathogeny and treatment.

Shall we enucleate an eye during panophthalmitis? How differently are we answered. How positive are some that we ought to do so. How severely is the practice condemned by others. So imperative is the dictation that a German oculist once apologized to a medical society for having twice so operated during such a condition, though with the best success, stating that when he performed the enucleations he did not know of von Graefe's teaching on the subject. Thus while following the dictates of his reason he had unwittingly offended the dictum of authority.[12] Surely this subject is not only still open to discussion, but needs it very much.

Shall we enucleate or eviscerate? This is not yet settled beyond dispute, though enucleation still holds its own as not only the safest but the most speedy cure of those cases in which both are urged by their advocates for preference.

Through what medium or influence is sympathetic ophthalmia produced? The question seemed settled a few years ago, and the ciliary nerves were almost universally recognized as the medium through which the morbid condition was set up in the sympathizing eye. Recently it is claimed that the lymph channels carry pathogenic organisms from the diseased to the healthy eye, and that it is by this agency that sympathetic disease is induced. Still others believe that both these agencies are at work in the production of the disease, and if the question should be called up here the advocates of each of these theories would probably be upon their feet, each sure of his ground and asking for a hearing.

But I might go on to the most tiresome extent, and then fail to mention all the subjects of dispute.

What few instances I have brought to notice might seem to imply that ophthalmology is one of the most unsettled branches of medicine, instead of being, as it is, the department most nearly approaching a fixed science.

In general practice we find, in the same way, the profession is urged to return to old methods, as for instance the calomel treatment for typhoid fever,[13] which not long ago was abandoned as a most pernicious treatment.

Not long since, a reviewer of general therapeutics, regarding this unsettled state of things, was led to make the following statements concerning that department of medicine: "To establish therapeutic facts the profession clings as with the heart and hand of one man; clings with a desperation and unanimity whose intensity is the measure of the unsatisfied desire for something fixed. Yet with what a Babel of discordant voices does it celebrate its two thousand years of experience.

"This is so well known that it seems superfluous to cite examples of the therapeutic discord; and one only shall be mentioned, namely, rheumatism. In this disease bleeding, nitrate of potassium, quinine, mercurials, flying blisters, purgation, opium, the bromides, veratria, and a host of other remedies, all have had their advocates, clamorous for a hearing; and above all the tumult are to be heard the trumpet-tones of a Chambers, 'Wrap you patients in blankets and let them alone.'

"Experience is said to be the mother of wisdom. Verily she has been in medicine a blind leader of the blind, and the history of medical progress is a history of men groping in the darkness, finding seeming gems of truth one after another, only in a few minutes to cast each back to the vast heap of forgotten baubles that in their day had also been mistaken for verities. In the past there is scarcely a conceivable absurdity that men have not tested by experience and for a time found to be the thing desired. In the present homœopathy and other similar delusions are eagerly embraced and honestly believed in by men who rest their faith upon experience."[14]

The truth of some of these remarks cannot be gainsaid, but while it is granted that those who "rest their faith" upon their individual experiences alone, may be led into any conceivable absurdity it should be remembered that these experiences taken collectively furnish the material from which to glean scientific truths. It is by discussing them, and submitting them to the intellectual process of combination and comparison that those principles are deduced which constitute scientific progress.

[11] Galeszowski, Med. Analectic, Feb. 7, 1889, page 63.
[12] Manthner, Sympathetic Diseases of the Eye, p. 160. (Webster & Spalding's Translation. Wm. Wood & Co., 1881.)
[13] Urged by Trube, Wunderlich, Liebermeister and others.
[14] H. C. Wood, in Preface to Therapeutics and Mat. Med., first edition.

Even the personal experience which this writer has referred to, as furnishing to the homœopathist facts which still further confirmed his delusion as to the efficacy of his remedies and mode of cure, also furnished the scientific physician with facts that enabled him, by discussing them and comparing them with the results obtained by other methods, to discover the natural history of many diseases, and to realize the disturbing and injurious effects of many established modes of treatment. He was thus led to realize more fully the agency of that *vis medicatrix naturæ* to which the homœopathist's success could only be ascribed, since, reasoning from known facts, the peculiar remedies of the homœpathist must be regarded as without effect. The result of this discussion of the subject was the more speedy recognition of the recuperative powers of the system, and the abandonment of injurious methods of treatment, and a consequent rapid advance in medical science and an increased success in medical practice.

In the same way a discussion and comparison of different experiences in the treatment of any form of ophthalmic disease may lead to the discovery of the important underlying principles of cure, from which must be derived that scientific practice which we aim to establish and perfect.

If this discord was to be interpreted as indicating a lack of progress it would be disheartening indeed. On the contrary it seems rather to be the natural outcome of too earnest seeking after facts. It seems with the profession as the poet declared to be true of the individual,

> "Who knows most, the more he knows to doubt,
> The least discourse is commonly most stout."

At least we can console ourselves that notwithstanding all this discord and conflict of opinion on ophthalmic subjects, progress has been steadily made. When Graefe devised his cataract extraction with iridectomy he at once increased the percentage of cures very greatly. That increase went steadily on until about 20 per cent. was added to successful results, making about 95 per cent. in all. And now one of those who asks us to return to the simple operation shows us one table with 96 per cent., and another with 97 per cent. of perfect results, and in 200 cases only 2 cases (1 per cent.) of total failure.[15]

Why is it that after so many years we return again to simple extraction with so much greater success? What are the essential elements of this success? Is this attainable by the average operator? These are themes for discussion. So with the other subjects I have mentioned. We treat glaucoma, sympathetic ophthalmia, and errors of refraction and nearly all other ophthalmic affections with more success than ever before. What are the elements of progress? Let us debate them.

We have indulged in a feast of statistics, and have not digested and assimilated them as we ought. It is possible that by proper discussion of these mooted subjects we can separate the truth from error, and deduce more fixed and definite principles and standard rules for our guidance in practice, and one of my objects in calling your attention to these unsettled questions is to remind you that there will be ample ground for debate in these meetings, and some, if not all, of the questions referred to will be raised for your consideration. "Try all things, hold fast by that which is good," is a safe injunction to heed, and I have no doubt that it will be faithfully observed by the members of this Section.

[15] Report of the first series of One Hundred Successive Extractions of Cataract without Iridectomy, by H. Knapp. Archives of Ophthalmology, Vol. xvii, p. 73. Also second series of One Hundred Cases. Archives Ophthalmology, March, 1889, p. 10.

ORIGINAL ARTICLES.

THE THERAPEUTIC USES OF ELECTRICITY.

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It begins to dawn upon the medical mind that the field covered by electricity is larger than that comprised by any other curative agency. That this should occur long after the whole world was disposed to accept the discovery of electricity in a form applicable to medical treatment as one which was to revolutionize medical practice, is at the first glance strange, but is nevertheless susceptible of easy explanation.

Electricity, known even to the ancients, had yet to wait until a time so modern as the end of the last century before a machine was devised to administer it even in the static form. Then, when men found themselves possessed of a force which they could for the first time generate and control, they naturally fell into confused notions about its being the vital force. Hence, when it is considered that the static form of electricity has comparatively little range in the treatment of disease, that quacks rushed forward to assert and maintain its universal curativeness, and that the sounder observation of skilful physicians discovered the untenability of the proposition, it is not surprising that when, in the early part of this century, current electricity was first generated, controlled, and applied to therapeutic purposes, electricity as a curative agent had been so discredited, that even thinkers in the medical profession were slow to believe in its remedial virtues.

On the one hand, electricity had, by those ignorant of its limitations, been lauded to the skies as a panacea; while, on the other hand, it had, by those equally ignorant of any of its merits, been decried as perfectly worthless. Empirics

having absurdly imagined and claimed that electricity would cure everything, and time having proved that the claim was unfounded, the medical use of dynamic electricity came in, without trial, for a share of the obloquy which attached to the failure of static electricity to do what it should never have been alleged to be capable of performing. Yet, the therapeutic value of static electricity will stand all reasonable test, and similarly, so will the therapeutic value of current electricity. Static electricity has never been fairly tested by physicians, because extraordinary efficacy being at first ascribed to it, and then as generally denied, it lost all standing in court, while current electricity never had proper standing there, because it was discredited in advance, by the loss of faith in static electricity, for which it was no more responsible than it was for the preceding ascription to static electricity of universal virtue.

The proverb truly says that a poor workman never had a good tool, and with equal truth we may add, that a good workman can supplement a bad tool. But these cases refer to work directly wrought by the hand of man. No amount of scientific knowledge or of manual skill can supply the deficiencies of a poor apparatus. No economy could be more false than to possess and use one. To accomplish our purpose in administering electricity, the apparatus must be not only good, but in good condition. Otherwise it is worse than useless; it is a delusion and a snare to both patient and physician. Whether, therefore, the apparatus be galvanic, faradic, combined galvanic and faradic, supplied by the incandescent light current or by storage batteries, or the apparatus be for static electricity, let it be excellent of its kind, under penalty otherwise of its not accomplishing the purpose professedly sought. Makers of good electric instruments now abound in the United States; France excels in them, and even England, which was slow in having specialists in that department of labor, is now supplied.

Dr. W. R. D. Blackwood reports that both static and faradic treatment often have the effect of relieving the chest pains and the debilitating night sweats of phthisis, through the improvement which they effect in general innervation and nutrition.

Faradization of the thorax is very beneficial in spasmodic asthma and chronic bronchitis. The dyspnœa of the latter is by this treatment much diminished in gravity.

Even more efficacious in the paroxysms of angina pectoris than inhalation of nitrite of amyl does prompt galvanization of the sympathetic seem to be in aborting an attack of this acute affection.

Sufferers from hay fever are so much addicted to seeking refuge in a change of climate when the season approaches when they are liable to an attack, that there has not yet been the fullest opportunity to experiment with electricity in cases of this disease. There is, however, reason to believe from the result of treatment which has been practiced in that direction, that hay fever can be much relieved by the employment of galvanization, administered as in exophthalmic goitre.

In exophthalmic goitre itself galvanization relieves the glandular swelling and reduces the protrusion of the eyeball. The method of application is to place the anode directly under the angle of the inferior maxillary bone (over the pneumogastric), and the cathode over the solar plexus. The current should be moderate, ten minutes at a time, at intervals of two days.

Insomnia is frequently successfully treated by general galvanization or faradization, when the use of drugs is contraindicated. General faradization just before the patient is intended to sleep has a calming effect. This is caused by the capacity of electricity to equalize the circulation and reduce the pulse without lowering its tone. The application is so simple that it can be made by a nurse or a member of the family.

Sciatica can always be relieved during its acute paroxysms by the administration of descending galvanic currents. Permanent cure of it has been frequently obtained by electro-puncture, the needle being thrust down to the nerve at one or more points along the painful portion of the nerve.

Neurasthenia is not always cured by electricity alone, although it frequently is. It will generally yield to electro-massage. This obviates the assumed necessity of the gorging which has been so general in the treatment of this complaint. The method employed is daily combined general galvanization and faradization.

Torpor of the liver is readily overcome by the faradic current.

General faradization of the abdomen every morning for a while, or if more convenient, every evening, will always provoke a movement of the bowels within a moderate time. This treatment is to be recommended far beyond that of the taking of drugs to relieve constipation, because, instead of its being followed by constipation, the effect tends to be permanent. Constant use of drugs for that prevalent ailment of constipation can thus be avoided by the employment of methodical faradization. Nothing so surely and promptly tones up the intestinal muscular fibre as does electricity, and causes the functions of the bowels to be regular.

In intestinal occlusion Dr. Larat[1] recommends galvanic electrization, and he reported nineteen cases before the French Academy of Medicine in which he cited six successes.

Dyspepsia in various forms receives decided relief from galvanization. Defective secretion of the gastric juice is rectified, glandular action stim-

[1] The Treatment of Intestinal Occlusion by Electricity. By Dr. Larat. Paris Letter to THE JOURNAL, June 15, 1889.

ulated, and the muscular tone of the stomach increased by this treatment.

Gastralgia and stomach-cramp are usually at once relieved by galvanization, as are also pyrosis and the vomiting of pregnancy. Currents not exceeding 15 milliampéres are best suited to the purpose, the anode being placed on the cervical spine and the cathode on the epigastrium.

Instances have been from time to time reported of the dislodgment of impacted gall-stones by the administration of electricity. As we have no remedy for this painful malady except dilcarea villosa, it would be well to give electricity a fair trial for its relief.

Hæmorrhoids, although not a disease of the digestive tract, so often depend upon the blocking of the chylo-poëtic circulation, as to suggest some mention in connection with the preceding brief notice of electrical treatment as applied to the bowels. The aching attendant upon congested piles is often dissipated by placing the anode on the anus and the cathode over the liver, and passing the galvanic current for fifteen minutes, with the strength of from 20 to 30 milliampéres.

The value of electrolysis in urethral stricture of the male has been incontestably proved by Dr. Newman, of New York. For that matter, contraction of any duct, such as the lachrymal canal, the œsophagus, or the Eustachian tube, is amenable to the electrolytic method. Extended clinical observation, however, is still needed to perfect these latter forms of electrolysis. For the relief of ordinary enlargement of the prostate gland, a suitable intra-rectal rheophore is required. In cases of extreme hypertrophy of the gland, the negative pole may be applied by a well-insulated needle introduced per anum, and with a current as strong as can be tolerated, say from 75 to 150 milliampéres, for from three to five minutes, at intervals of three days. The indifferent electrode may be applied over the abdomen or on the thigh. In all administration of the current to a mucous membrane canal the negative pole must be used, for the positive pole would ruin the passage.

In diseases of children electricity presents excellent results. Marasmus, or general wasting and debility without loss of muscle, is readily overcome by thorough electrical treatment. In this case general galvanization should be used for its tonic effect, and faradization of the muscles employed for giving exercise to them within the lines of producing fatigue. Undue muscular exertion effected in a debilitated child would be injurious, instead of beneficial. Therefore the current should be mild, and the time of application short.

Incontinence of urine, an affection extremely intractable to treatment by drugs, is usually easily controlled by galvanization faithfully administered.

The vomiting of cholera infantum is sometimes checked by mild faradization of the pneumogastric.

The dyspnœa following scarlet fever, measles, and whooping-cough, and the aphonia sometimes existing as the suite of these affections, are ordinarily amenable to galvanization; and in the case of the aphonia, static electricity has proved to be extremely valuable.

Dropsy, as the suite of scarlatina, is sometimes quickly reduced by localized electrization, as is also œdema in either children or adults, provided always that it is not complicated with Bright's disease.

Faradization, which tends to relieve the engorged capillaries of the mucous lining of the bladder, is therefore often instrumental in curing cystitis in both adults and children. Incidentally it has been observed in these cases that electrization reduces the mucoid discharges from the bladder.

Galvanization has been proved to be of value in some cases of disease of the eye. Dr. C. S. Bull remarks, in the *New York Medical Journal* of April 27, 1889, that, "in traumatic anæsthesia of the optic nerve and retina, uncomplicated by any laceration of nerve tissue or rupture of nerve fibres, galvanism carefully and persistently applied has been known to produce a rapid and permanent improvement of vision when applied directly to the closed lids, and the current passed through the eyeball."

The knife-pains of locomotor ataxia are sometimes sensibly relieved by galvanization, and spinal galvanization has in some instances so greatly ameliorated the condition of the patient as to permit of his leaving his couch, to which he had previously been almost confined.

In uterine disorders electricity is almost indispensable. Extra-uterine pregnancies have been cut short by both currents, some operators preferring one, and some the other. In dysmenorrhœa intra-uterine galvanization with a strong current is of great service, while in amenorrhœa, by means of faradization through the ovaries and uterus the menstrual flow is soon established. Menorrhagia arising from relaxed uterine walls is specially relieved by faradization. When the result of villous growth of the endothelium, the employment of cauterant galvanic currents will remove the active cause of the affection.

Many eminent alienists, especially abroad, are reporting favorably on the use of galvanization in some mental disorders. Melancholia, with or without delusions, has been benefited by prolonged treatment without recourse to commitment to an asylum. Some patients, presenting delusional or monomaniacal features which had resisted routine asylum treatment, have been thoroughly restored to sanity under cerebro-spinal galvanization.

In the methods of electro-cautery we possess for many cases great advantages over those of

former surgical procedure. The galvanic loop is rapid in its operation, aseptic, and bloodless. When a current of strength sufficient to make chemical resolution is anywhere used, the operator should know that the acid goes to the positive pole and the alkali to the negative pole. Hence it is not a matter of indifference which pole is to be used for a particular purpose. In the electrolysis of a fibroid we aim at its disintegration. Hence, in that case, the needles introduced should represent the negative pole. The result is the liquefaction of the mass, and the rapidity and amount of the effect produced are dependent upon the strength of the current. If, on the contrary, we purpose arresting the hæmorrhage from a bleeding myoma, we must depend upon the action of the positive pole, the current from that pole tending to neutralize the vascularity of the part, producing coagulation of the blood.

In this connection we would remark that much inconsiderate animadversion has taken place with reference to the use of strong currents upon occasions. The question depends simply upon what is the occasion. As a general rule, currents should be used very mild, and their duration not be prolonged. But when we say that, we are speaking of currents for general practice. There are many occasions when the currents cannot be otherwise than strong if they are to accomplish their professed purpose. Such are the currents used in galvano-cautery. They are really not so efficiently strong as they appear to be from the mere mention of the number of milliampéres employed, the indifferent pole diffusing the current over a vast space, and the working pole being used as a cauterizing instrument at the point operated upon.

At least brief mention should not be omitted here of the efficiency of electrical treatment in neurotic skin affections. Some forms of eczema are remarkably amenable to both galvanization and faradization. Acne is also sometimes cured by local galvanization, and at present attention is drawn to the employment of strong currents in ulcerative skin diseases. The distressing itching of prurigo is readily relieved by general galvanization or faradization.

The diagnosis of nervous diseases is greatly facilitated by electric tests. Then, the very instrumentality which has enabled us in paralysis to diagnose the extent of the disease to the best advantage, also enables us to the best advantage to treat it, if it is at all amenable to treatment.

Many nervous girls who are a burden to themselves and their families are brought into new enjoyment of life under proper electrical treatment. More treatment by electricity and less by abdominal surgery would relieve large numbers of female hysterical patients.

Epileptiform seizures and epilepsy are sometimes susceptible of amelioration by galvanization. The best way in these cases is to administer the descending current from the vertex to the epigastrium. If convenient, the current should be administered so as to anticipate the spasm. If this be accomplished, the seizure is generally cut short or aborted. The effect of the bromides is heightened by conjoined electrization. When minor epilepsy is simply held in check by bromine, electrization combined with it has sometimes effected a cure. Chorea and allied tremor are often notably relieved by general galvanization. Cases occur in which a single muscle twitches, as, for instance, the levator labii superioris alæque nasi, for which local faradization proves entirely successful. Spasm of one or both eyelids is effectively treated in the same manner. The ordinary chorea of schools is usually cut short by strong faradization of the entire surface of the body.

When paralysis is dependent upon such central lesion as intracranial hæmorrhage, time should be given for the absorption of the clot. In from six to twelve weeks after the onset of the disease, no treatment equals faradization. Gentle faradization of the brain undoubtedly hastens absorption of the effusion on the brain. For Bell's palsy nothing exceeds in usefulness localized galvanization. The affected muscles should be picked out separately and submitted to treatment one at a time. When the galvanic current proves slow to act favorably upon the disease, static sparks may be advantageously substituted. Recovery is sometimes so prompt as to astonish even the patient.

As we remarked at the beginning of this article, early in the history of electro-therapeutics static electricity was extensively used for the cure of disease, but owing to the causes detailed, fell into disrepute. But within the last few years this form of electricity has been revived for the treatment of disease. It should undoubtedly be allowed a prominent place in peripheral nervous disorders, as there is reason to believe that deep-seated lesions are favorably reached by it through the instrumentality of reflex action.

The use of static machines for general tonic electrization is very advisable in many cases. Various hyperæsthesias and anæsthesias of the surface of the body are often amenable to static applications. Diseases resembling herpes zoster may in the beginning be amenable to this form of electrical treatment. Spermatorrhœa and other conditions of the generative organs evidencing debility, are frequently benefited by the administration of static electricity. Amenorrhœa is sometimes cured by the administration of static electricity, after other means, even including dynamic electricity, have failed. As a counter-irritant in affections of the joints, such as gout and articular rheumatism, static electrization is frequently preferable to faradization.

There is nothing concerning the medical employment of electricity in which we personally

feel more interest at the present moment than in its alleged efficacy in palliating the treatment of cancer of the breast and various other tumors.[2] Dr. Parsons,[3] of the Chelsea Hospital for Women, lately reports that he has been able to check cancer by means of electrolization. M. Darin also reports lately excellent results obtained from electrical treatment in the case of cancer and other tumors. If one does but for a moment reflect upon the sum of his observations of fungoid growths, whether vegetable or animal, he will perceive that their vitality seems to be of the most precarious sort, all the more precarious when the growth is morbid, when it is conditioned upon the most undisturbed circumstances to ensure continued cell proliferation and growth. It would seem, then, that as nothing is so capable as electrolysis of shattering the fundamental integrity of any tumor, it would be well to pursue the investigations referred to still further in the direction necessary to settle the question whether it is equal to the palliation or the cure of cancer.

NEEDLESS AND ANNOYING RESTRAINTS IN EYE SURGERY.

Read in the Section of Ophthalmology, at the Fortieth Annual Meeting of the American Medical Association, June 26, 1889.

BY JULIAN J. CHISOLM, M.D.,

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The successful surgery of the day depends largely upon the care bestowed in the carrying out of details. Many things, little in appearance but really essential, make up the summary of successful treatment. While this applies to all surgery, it embraces eye surgery as well. The successes of to-day, which make operations upon the eye the most perfect of all surgical practice, is brought about by the great care bestowed in the preparations for the operation, the manual for its performance, and the after-treatment.

In eye surgery smooth operations cover at least 75 per cent. towards successes, so that the bad results can be partly laid to traumatism, or defective operative procedures. When an eye operation is well done the surgeon may confidently expect good results. To ensure this there are certain points upon which all agree. *Cleanliness holds the first place.* Clean instruments, clean hands, clean dressings, clean surroundings, are all of paramount importance, and should be of universal adoption. To obtain the largest per cent. of successes in eye surgery no one of these can be omitted. The necessity for asepsis and antisepsis are recognized and adopted more or less generally and thoroughly. Our instruments must be kept sharp, as well as clean, or they will not do the nice work required of them. Putting them in boiling water before as well as after operations ensures this cleanliness, and is a good precaution which many use. The mercurial and boric acid solutions I find detrimental to delicate instruments, and hence I do not immerse cataract instruments in them. The same might be said of passing the blade of a knife rapidly across a flame. If left long enough to destroy bacteria the edge of the blade is very apt to suffer. Boiling water ensures all that is desired, with no risk to the instruments.

The washing of the eye with weak solution of mercury bi-chloride, 1 to 4000, or mercury bin-iodide 1 to 20,000, or boric acid 1 to 40, are in very general use for cleansing the conjunctival surfaces both before, during and after eye operations. Water which has been boiled is found quite as good as the medicated lotions. The eye operated upon is usually in an aseptic condition. As we desire to keep it in the same, we do not wish to impregnate the newly made wound with offending material conveyed in the water used for cleansing purposes, hence the medicated liquids in which the sponges or wiping pledgets of cotton are kept immersed while the operation is going on. This seems to be the chief protection against infection. The momentary application of these lotions to the conjunctiva can be of little service in destroying bacteria. We all do it, some going so far as to wash the face, including the eyelids, with the lotion. It is a harmless procedure, and I believe as useless as it is innocent.

Some surgeons carry antiseptic precautions to an excessive and even annoying degree. They seem to be suffering from bacterial fright, and are suspicious of the most innocent organisms. To them it is as if every man, woman and child met with on the streets of a crowded city are assassins bent upon mischief, and hence enemies. All bacteria are treated as if malignant, and are to be killed in sponges or dressings at least, by the long continued application of heat. Absorbent cotton used for dressings is baked at high temperature for hours, and then kept in air-tight jars which have been equally sterilized by long exposure in hot ovens. This seems to me a useless precaution from over-zeal, the more especially when I see unwashed hands manipulate the excessively prepared dressings. That bacteria exist and are omnipresent no one now questions; but that they are always bent on mischief only the over-zealous believe. Experience proves this to be the case, as no better results are obtained in treatment by those who over-do in their excessive preparations for an operation.

Confinement to bed for eye operations is another practice often annoyingly pressed to the discom-

[2] "On the Treatment of Uterine Tumors by Electricity," by Thomas Keith, M.D., LL.D. The British Med. Jour., June 8, 1889.

[3] "The Arrest of Growth in Cancer by a Powerful Interrupted Voltaic Current (Electro-Necrosis)," by J. Inglis Parsons, M.D. The British Medical Journal, June 8, 1889.

fort of the patient. The eye is an isolated organ not easily influenced by the movements of the body, and therefore to a great extent independent of them. To restrict the movements of the arms and legs, and even of the jaws, because the eye has received a wound at the hands of a skilful surgeon, when such restraints are not practiced should the eye have been accidentally wounded by some crude cutting material, is inconsistent, to say the least of it. It is about as rational to stop the eye from moving because the arm is broken, as to restrain the legs because the eye is cut. The confinement exacted by some surgeons with patients who have submitted to eye operations at their hands, is cruel, the more especially as the experience of others has shown these restraints to be useless, always annoying, and in some cases injurious. I have seen a patient confined to bed because an eye muscle had been advanced. Confinement to the house in such cases is bad enough. My advancement cases walk the streets unbandaged from the moment of operation, and I secure excellent results. Why should I therefore confine them? Up to within a few years nearly all eye operations were considered proper cases for bed treatment. At the present time I am glad to know that the list of such is being freely cut, with the promise of making it eventually very small.

In my own work I use bed treatment to a very limited extent, and never make it compulsory. For the day of operation, especially if chloroform has been used, patients find the bed the most comfortable place, but after the first night they may follow their own inclinations as to its continuance. I presume it is generally conceded that lid operations, neurotomies, enucleations and muscle sections need not be cases for bed treatment. In this list I put iridectomies and cataract extractions. For the past three years my cataract patients have not been put to bed, and I have yet to see any injury from the enjoyment of this liberty. From the operating chair they walk to their chambers, and use the bed or not, as they feel inclined.

Another annoying restraint which is gradually giving way to a more enlightened experience is the use of the *dark room* in the after-treatment of eye operations. When an eye has sustained injury either by accident or at the hands of the surgeon, the common habit is to confine the patient to a dark room while undergoing treatment. With the people this is an all-pervading desire, and it is acquiesced in by the majority of physicians. Notwithstanding all of which it is a bad practice. A simple rule, and in my experience a very safe one, is to allow the patient to enjoy any degree of light which is not offensive to the eye. *If light is not annoying it will not be injurious.* By accepting this law of nature for our guidance the use of a dark room will be found very limited in eye surgery. Before I knew better, I also thought it my duty to do as I saw others do, shut out the light of day and use candle light for all inspections. I could not find curtains dark enough to exclude all the light that I desired to shut out. In furnishing my hospital some years since every window in the building, wards, private rooms and passages, was completely covered with the darkest shades that I could find; and when in iridectomy and cataract cases the bandages were removed I had additional black curtains which were hung over the already too dark shades, so that the rooms were black enough to satisfy the wants of any eye surgeon. Now these funereal window dressings have all disappeared, and with them the dark shades. Experience has slowly taught me that the theory was wrong and the practice bad. My desire now is to exclude harsh light only, and especially to avoid all sudden transitions. My patients are treated in moderately lighted rooms and are allowed to take all the light that they can bear with comfort, only the eye operated upon being closed. To those who will try the experiment it is surprising to find how much light can be comfortably borne by the majority of eye patients, for their own advantage and that of the attendants.

I have startled some of my specialist friends who use the candle much too freely, when I took them into an ordinarily lighted room to examine a cataract case five days after an extraction, especially when I drew aside the window shade so that under the full light of day the examination of the eye could be made more thoroughly. After watching these cases for a few days, and finding much stronger eyes than they were accustomed to see under the dark room treatment, they have left me with the intention of becoming, as they say, more venturesome in the future.

Another annoying restraint much too freely used is the eye bandage. To tie up an eye for disease or an accident, however trivial to the organ, is a popular device of universal adoption, and one might equally add of universal misapplication. By this I do not mean to infer that the eye bandage is to be discarded from surgical practice, for we often find it an essential factor for successful treatment. I refer to its indiscriminate use, and consequent abuse. For pressure effects we need it, and must ever use it. When it is desired simply to exclude light a better device can be found. In many cases it is applied to keep an eye quiet, which is a physiological impossibility. This delusion is carried out when an attempt is made to dress an eye recently operated upon for cataract or iridectomy by surrounding it with small discs of lint systematically and beautifully piled up until all the irregularities of the orbital surface are brought to a level. These are then secured in place by a roll of bandage for what is called equable pressure. Many years since I used to extol an elastic pad of raw cotton for filling

these indications. When pressed by a bandage the soft compress would sink down, filling up any excavatory spaces, and give as I then thought, an excellent support to the cut organ. I found these theories not sustained and I abandoned that practice.

Now the only dressing I use after iridectomies and cataract extractions is a piece of isinglass plaster. It is designed simply to keep the lids closed over the eye ball. I avoid all artificial compresses. I find the lids with their tarsal cartilages a sufficiently thick and heavy compress, a perfectedly adapted splint, moulded by nature to support every part of the anterior surface of the eye ball. When the eye is closed the orbicular palpebral muscle automatically makes just the degree of pressure needed, and retains the lips of the corneal wound in perfect apposition. After operations on the front of the eye ball, a strip of adhesive plaster fills every indication for lid restraint, and it should become the universal eye dressing. It is light, simple, easily applied, comfortably worn and not easily displaced. By the action of the lid muscle it keeps up equable support. It is also transparent, so that any discharges from the eye, or any changes which the lids may take on, can be seen at the daily inspection, and the condition of the eye known without disturbing the dressing. When the object is only to close the eye, the tying up of the head by bandages, however skilfully constructed, is an annoying restraint, which patients will gladly avoid. Those who have submitted to the bandage and compresses in former cataract operations, and to the adhesive isinglass strap in subsequent ones, are loud in their praises of this simple eye dressing.

As to the tying of the hands of patients for fear they may injure the eye recently operated upon, I am glad to say that I have never practiced it. I deem it a needless and very annoying restraint. My cataract operations now exceed 1,800, and are being added to at the rate of over 100 extractions per year—116 for the year just closed, with only two lost eyes. To have the cut eye touched by the finger during sleep, is not an extremely rare occurrence, and that the patient should be awakened with a twinge of pain is not surprising, but I have never seen any trouble come from it in these cases in which my attention was called to the accident at the time of its occurrence. Why tie up the hands of every patient as recommended by some eye surgeons, in order to avoid this imaginary danger. The very restraint, with the loss of sleep and the restlessness which it engenders, may bring about troubles much more serious to the eye than the accidental touching of it with the finger.

Another annoying and injurious restraint is *the rigid diet* enforced after eye operations. There is an idea that in some mysterious way, not anatomically demonstrated, the movements of the jaws excites corresponding movements in the eye, and therefore induces bad results upon the lips of the wound recently made in the cornea. How this notion, of the jolting of the eye by the masticatory movements of the jaws, ever secured professional recognition is very surprising, but it nevertheless shows its influence in the practice of some who feed their patients on slops for days after cataract extractions. They believe that they are following out a wise course in so doing. Their patients survive and get well. But so do also the patients of those who are not subject to this soft diet. It is said that we all eat too much, and from this standpoint a few meals the less can do no great harm. But there is another law even greater in force, which reads: "to secure the ready healing of a wound with the least degree of irritation, disturb the system of the individual as little as possible, and allow the dictates of nature to reign unmolested." Take for instance, our cataract cases. They occur usually in old people, in whom habits are strongly established. They have been accustomed to daily exercise and regular eating. To suddenly suppress in an old person these natural functions, by putting him on his back in bed, with both eyes bandaged, and on rigid diet, is not the best way to keep him healthy while the corneal wound is healing.

The following case, *excessively, untrammelled during the treatment*, occurred in my practice during the month of December, 1888: Mr. M., æt. 90, a wealthy old gentleman, sent me an urgent appeal to come to his home, 600 miles from Baltimore, and operate upon him for cataract. Against my established custom, I, in his individual case, yielded to his entreaty and went to him. I arrived at his home in South Carolina at 2 o'clock in the day, and found him sitting by an open fire. He could see me dimly with the left eye. With the right eye in which he had been blind with senile cataract for nearly twenty years, he had good light perception. Within a half hour after my arrival, and with no preparation whatever, I made a smooth extraction under cocaine. The eye operated upon was dressed by the isinglass strip, and the other eye with limited sight was left open. With this eye he could still see to get about, and after the operation he resumed his accustomed seat by the chimney. The only change made in this room was closing the outer slatted blinds to keep out sunlight and drawing down the shades. It was now his dinner time. After the operation he asked for his usual meal, and with my permission he had it. When 8 P.M. came he went to bed in a contiguous room, undressing himself. In the morning he was up for breakfast. I found him in his usual seat in the parlor alongside of the fireplace, a screen having been placed between him and the blaze to keep the direct rays from shin-

ing into his face. He had suffered no inconvenience from the operation, had slept well, had enjoyed his breakfast, and was in every way comfortable. I left him that day at 2 o'clock, having spent twenty-four hours with him. My instructions to his family physician, in whose care I left him, were to allow him all the latitude which I had established, and only keep his movements restricted to the darkened parlor and contiguous darkened bed-room, to let him have his usual meals, to look at the face and closed eyelids daily, but to leave the dressings undisturbed for six days; also to telegraph me for instructions should any unsatisfactory changes appear. I knew that the carefully applied isinglass plaster would hold on for a week, and therefore the doctor could not indulge a curiosity for a too early examination of the eye, which he might have done had the compress and bandage been used. The programme was carried ont. In due time the strap was removed; no troubles had been discovered at the daily visits. The vision of the new eye rapidly strengthened. Such good sight was restored that at the end of four weeks by the use of a two and a half-inch glass, the old gentleman himself wrote me a long letter of thanks, and as he said to give me an evidence of his handwriting, and of his complete restoration to sight. Better results could not have been obtained had he been made to go through the most orthodox course of restraining and abstaining treatment.

FACIAL NEURALGIA CONSEQUENT UPON PREGNANCY.

Read before the Section of Dental and Oral Surgery, at the Fortieth Annual Meeting of the American Medical Association, at Newport, June, 1889.

BY W. W. ALLPORT, M.D., D.D.S.,
OF CHICAGO.

In the paper that I am about to present to this Section I propose, very briefly, to discuss the nature and causes of facial neuralgia consequent upon pregnancy.

For the term neuralgia, I have never seen a definition that exactly suited me, nor am I satisfied with any definition that I myself can make. But in a general way, it may be said that neuralgia is an acute, intermittent pain carried in irregular, and often in divergent currents through the nerves and their branches, the result of an unnatural disturbance of molecular vital forces; or, it may be said to be a nerve's expression of some pathological condition, which may be contiguous to, or far removed from, the point of expression. Pain is a nerve's expression of disease, as words are expressions of thought. It is a symptom, or an informer of disease, imploring help.

The causes of neuralgia are manifold. Among the most prominent may be mentioned sudden changes of temperature, pressure upon any portion of a nerve trunk or its branches. This may be from a local deposit or growth of any kind; or from arterial tension by an increased volume of blood; or it may be produced by an opposite, an anæmic condition, a deficiency of blood; an impoverished condition of blood, indigestion; or, in fact, anything that produces such a disproportion of the standard constituents of the blood as will disturb nutrition, or by an impairment, or decay of tissues. Upon this latter point Anstie says: "Amongst the neuralgias that are the most *absolutely* agonizing, are those which occur under circumstances of impaired nutrition incident to bodily decay," and especially is this so, when it occurs at parts at the peripheral end of the nerve.

These are by no means all of the causes of neuralgia, but I have named enough for the object I have in view, namely: to show that facial neuralgia due to pregnancy, is not due, as is generally supposed, from reflex pain, caused by disturbances in the uterus, or from pressure upon nerve trunks in its immediate locality, by the increased weight of this organ during the period of gestation.

It is a fact, I believe, that women while in this condition, suffer more from neuralgia in the upper than in the lower extremity. If this be so, there must be a reason for it; and it can hardly be from *weight* pressure, of the uterus, for were this the cause of neuralgic pain, we should naturally look for its prevalence in the lower rather than the upper extremities, while in fact, it is in the face, cranium and teeth that it is most frequently manifest. Then, too, it is a long way and a very circuitous route from the uterus to the branches of the fifth pair of nerves in the face and its surroundings, and it is difficult to see why these, rather than other nerves of the body, should be most frequently selected for reflex pain from uterine irritation, or pressure.

Although there are exceptions to the rule, I think it is an admitted fact that, while there is usually an increased volume of blood in women in this condition, the increase is in its white, rather than its red corpuscles, its life-giving properties. At the very period in a woman's life when it would seem to be most important that the proportion of life-giving properties of her blood should be the richest, it generally seems to be the poorest. When her system is called upon to sustain, in addition to her own, a new life, her blood is deficient in the life-giving properties to properly nourish her own body, to say nothing of the child she is to bear. The superabundance of serum in her blood may make her plump and full, yet she is usually pale, evincing a lack of vitality, or proper tissue nourishment.

Another important fact, bearing on the point in question, is that all below the diaphragm is in a constant state of venous hyperæmia, while that above is in a constant state of arterial hyperæmia,

and arterial tension with its muscular expansion and contraction is always a fruitful source of nerve irritation and pain. This is doubly true when the arterial hyperæmia occurs in organs like the mouth, where among the teeth there is almost always some pathological condition present.

Then, too, it is a well known fact that during the period of gravidity, most women are troubled with irritability of the nerves of the mucous membrane of the stomach; so much so that, at times, it is difficult for them to retain a sufficient amount of food for proper nourishment. It is much easier, as well as more rational, to conclude that facial neuralgia in pregnancy is reflected from the nerve irritation of the stomach, rather than from the uterus, for irritation of the stomach, or indigestion, is a well-known cause of this symptom. Neuralgia in the lower part of the abdomen, the inguinal regions, etc., is not uncommon in non-pregnant women. In pregnant women, however, these neuralgias are said to be seldom seen. If the neuralgia of pregnancy were a uterine reflex, its *locale* would naturally seem to be near to the uterus rather than distant from it, as in the prevalent facial neuralgia of this condition. In fact, the entire upper portion of the alimentary canal, including the mouth, is usually in an irritable condition, while the lower part is apt to be in a sluggish and torpid condition.

In a majority of cases the sweat glands of pregnant women are found to be in an abnormal state of functional activity; of course the face does not escape this condition, and no one need be told that with its almost constant exposure to atmospheric influences, the nerves of the face are particularly liable to those atmospheric impressions that are always productive of those molecular changes peculiar, or essential, to nerve pain.

Gingivitis is another source of irritation to which these subjects are peculiarly liable, the majority not escaping it. Such is the nervous and vascular connection of the gums with the pericemental membrane, that the disease usually extends to the latter organ, and it not infrequently happens that the entire denture becomes not only loose, but the pressure on the teeth produces acute pain consequent upon severe inflammation in the pericemental membrane. This membrane, in every way, presents the hyperæmic condition that we would expect to be productive of reflex nerve pain. Besides this, the swollen condition of the membranes surrounding the apical foramen of the tooth so strangles the vascular and nerve supply of the tooth as to seriously interfere with their functions, and must, therefore, produce irritation at the nerve peripheries. Consequent upon this, as well as from other causes, proper nourishment of the tooth structure is cut off, and the tooth is not only rendered more liable to irritation and decay from the action of external agents, but such starved condition and retrograde metamorphosis of the nerve fibrils of the tooth structure is established, as to be prolific of the agonizing neuralgia spoken of by Anstie, which occurs under circumstances of impaired nutrition incident to a wasting of tissue or bodily decay.

INSANITY PROCEEDING FROM THE COLON.

Read before the Chicago Medical Society, July 15, 1889.

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The term "reflex" as applied to certain pathological conditions has been so often misused, and such erroneous conceptions have been formed under this all-embracing title, that we confess to a dislike of the term and only consent to use it in its most restricted sense. One has only to refer to the vast number of surgical procedures relegated to oblivion, to emphasize the erroneous conceptions formed regarding the reflex nature of some nervous disorders; clitoridectomy, circumcision, even castration, and lastly oöphorectomy, which we believe to be still somewhat in fashion. Scarcely a portion of the body, or organ has escaped, and the recent literature from the pens of those who devote special attention to the diseases of a single organ, is filled with cases illustrating the potency and power of the particular organ, which they treat, to cause reflex nervous disorders. The ophthalmologist, not content with his reflex headache, neuralgia, etc., has recently added epilepsy to the list, the rhinologist has appended asthma to the pharyngeal tonsil, and a homœopathic surgeon has recently begun to dilate the anal sphincter and scrape out the rectum for almost every disease from hæmorrhoids to alopecia. The colon has thus far largely escaped; not, we think, through want of importance, but solely because no one seems to have devoted especial consideration to the diseases of this organ. The "colonologist" belongs to the future.

So far as my knowledge extends the earliest writer to call attention to the colon as a reflex cause of insanity, was Schroeder von der Kolk.[1] It formed no mean division of his order of sympathetic insanities, only yielding in importance to the uterus and sexual parts. He regarded the trouble as a true reflex, an irritation beginning in the peripheral endings of the sympathetic nerves, propagated to the vaso-motor supply of the central nervous system, and there working disorder principally in the circulation. In these days of germs and ptomaines, a more acceptable theory to many, will be that we have, in these cases, a true auto-infection; an addition to the blood of noxious elements which, circulating through the nervous system, produce toxic effects. It is probable that both theories have an element

[1] Mental Disease.

of truth. In some cases there may be a direct poisoning of the blood, while in others the disorders may be purely reflex in character.

Von der Kolk was himself affected with this disorder. While suffering from constipation and fatigue from overwork, hallucinations and phantasms appeared to him and continued for three days. A large clyster was administered, which was followed by a copious evacuation of foul-smelling fæcal matter; immediately the hallucinations disappeared and his mind became tranquil. There are no distinguishing symptoms of this condition, but an intellectual disturbance which has its origin in this source, is said by Schroeder to be characterized by a peculiar depression of spirits, by anguish of mind, and by the patient's self-accusations of wretchedness and baseness. The disease has a very slow course, and generally the mental anguish has existed some time before the physician is consulted.

Whatever view may be taken of the basic pathology of these conditions, there can be no doubt of their etiological relations, and additional emphasis is laid upon the necessity of thoroughly investigating possible sources of reflex irritation in all functional nerve disorders. The following cases illustrate the gravity of the disturbance which may follow disease of the colon and the necessity of a more careful inquiry into the condition of that organ:

July 17, 1887, I was summoned to an adjoining city to see Mrs. G., in consultation. The attending physician furnished me with the following account: Father of patient living and well, mother died of cancer of the uterus. No trace of insanity in the family, or neurotic heredity of any kind. Her health previous to the present difficulty had been fair, an occasional cough with inflammation of the pharynx being her only illness. Menstruation appeared at 14 and was always normally performed. Married at 23, and at 25 had a premature labor, this accident not being followed by any disturbance of the general health. Present illness began about eighteen months ago and was marked by an increasing general debility, loss of appetite, decrease in weight and obstinate constipation. The symptoms did not point to a change in any particular organ. Six months later had sudden attacks of faintness occurring at irregular intervals. These attacks would begin with pain in the left hypochondrium and a sense of suffocation. Within the last six months tenderness on pressure has appeared in this region, and the attacks have become more frequent and are accompanied by vomiting. During this time she had no febrile reaction, but was nervous, excitable, and affected with morbid fears. This was substantially her condition until three months before she came under my observation, when she began to show positive signs of insanity; was restless, sleepless, and incoherent, with confusional hallucinations and non-systematic delusions of a depressed and melancholy character.

Examination of the patient shows the muscles and fatty tissues wasted to the last degree. The flexor tendons of the thighs are contracted, so that the legs cannot be extended. The skin is of a dirty brown color, and covered with branny scales. Eyeballs prominent, pupils react normally. Ophthalmoscopic appearance of fundus normal. The heart, lungs, kidneys and sexual organs were carefully investigated and nothing abnormal noted. A line of superficial dulness could be made out extending transversely across the abdomen, on a level with the umbilicus, and a lobulated mass could be felt in the left inguinal region, but it could not be distinctly outlined. The temperature was normal. Pulse weak and variable from 120 to 140 per minute. The mental symptoms were substantially those which were described as existing for the past three months.

A diagnosis of an exhaustional-confusional form of insanity proceeding from a dilated and overfilled colon, was made. Large rectal injections were ordered, containing in each pint of water 2 ozs. of listerine and 1 drachm of common salt. Tonics were also ordered, with cod-liver oil inunctions, massage and general faradization.

The subsequent history was furnished by the attending physician.

July 19. Condition unchanged, absolutely refused food. Insisted that her brother had been recently killed.

July 20. First injection given, consisting of about 2 pints. The tube was passed well beyond the sigmoid flexure. In about an hour the injection came away and with it a considerable amount of fæcal matter. Upon withdrawing the tube, its distal end was found to be coated with dark, waxy, adhesive fæcal matter entirely unlike that which came away. After the injection the patient passed into a quiet sleep, from which she awakened after about two hours, and called for food for the first time in many weeks.

July 21. Marked improvement, pulse 100. No fæcal masses came away with to-day's injection, but the tube is still coated as at first, showing that a mass is still retained. Mind perfectly clear and tranquil.

July 30. Continued improvement. Since beginning the treatment ten rectal injections have been given. Occasionally a dark, hardened fæcal mass comes away.

August 14. Able to be out of bed but walks with great difficulty, owing to the muscular wasting. Mind perfectly clear, but retains only an indistinct recollection of the time of her illness. For the past two weeks her bowels have acted without cathartics, and her appetite is excellent.

November 20. No longer suffers from constipation, and her health is better than it was before her illness.

An account of a striking case of this kind was sent me by my friend Dr. H. M. Bannister, senior assistant physician to the Illinois Eastern Hospital for the Insane. The patient, a panophobic melancholic with suicidal tendencies, had refused food for months and had been fed artificially. He seemed too weak to walk and was sent to the infirmary ward, where the attendant noticed that he had no free passage from his bowels. A large injection was ordered, which freed him of an immense quantity of fæces, which he had been keeping in store and letting off by driblets. Within an hour or two, during the momentary absence of the attendant, he got up, dressed himself, broke through a window and made his escape. He eluded a very thorough search, and was only heard from some time later, when he wrote a perfectly straight letter for his clothing.

Case third was that of a young man 30 years of age, having a marked neurotic heredity. His mother is now insane. Of nervous temperament, but of previous good health and strength. He consulted me for what he termed a marked change in his character and habits. From being cheerful and contented he had lately become nervous, suspicious of his fellow-workmen, fretful, and inclined to quarrels and to take offense. These mental symptoms had been accompanied by decreasing weight, failure of strength, general debility, loss of appetite and a disinclination to exertion. An account was given of irregular action of the bowels extending over one year; at times constipation and again several watery discharges, to be succeeded by a period of inaction. A copious rectal injection relieved him of a large mass of dark, consistent, foul-smelling fæces. With this came a complete restoration of the normal mental tone.

Regarding the treatment of this condition we incline to the view expressed by von der Kolk, who says (p. 134, ibid.): "All remedies which act as violent irritants of the colon, the so-called drastics, only increase the tendency to stricture, they add to the sensibility of the colon, and the accumulation of blood in it, and cause watery stools, while the hard masses in the upper portion of the large intestine still remain. The disquietude, the excitement, and the uneasy feeling of the patient are thereby increased, but the strength is diminished, if these medicines are continued for any length of time; the circulation becomes more and more irregular, the radial pulse becomes small, and the limbs cool." The first case is instructive in this regard. The consulting physician in that case said the diagnosis was an absurdity because the patient had been given cathartics, causing repeated movements of the bowels, and they always made her worse, increasing the weakness and mental aberration. He incontinently withdrew from the case upon learning that the attending physician agreed with us.

In ordinary constipation where there is simple atony of the bowels, laxatives may be indicated; but where we have a true overfilling with distension of the pouches of the colon, cathartics are of little use, and may be positively injurious.

434 W. Adams St.

MEDICAL PROGRESS.

SHOULD WE TAKE PROPHYLACTIC MEASURES FOR THE PREVENTION OF PNEUMONIA FROM A POINT OF VIEW OF CONTAGION?—By DR. CRONIGNEAU (Société de Méd. Pratique, Paris). About a year ago I was called to a lady whom I found suffering from pneumonia affecting the lower third of the right lung. In spite of classical treatment rigorously carried out (antimonials, alcohol, tonics, revulsives), nearly the entire lung became hepatized, and although the fever did not run very high, there was soon paralysis of the bladder with retention of urine necessitating catheterization, and paralysis of the bronchi, phenomena which, in the light of existing theories, one would ascribe to an intoxication of the entire organism by the leucomaines of Fränkel's diplococci. The patient died. Eight days afterward, her brother-in-law took to bed with pneumonia of the apex of the right lung. There was no suspicion of tuberculosis, although the patient, aged 54 years, had long suffered from catarrh, for which reason there was a *locus minoris resistentiæ* offered to all infectious germs. The disease ran a normal course up to the eighth day, when the patient, who was very much cyanosed, died suddenly of pulmonary hæmorrhage. I have reported these cases because I wish to propose the following questions: In view of the prevailing opinions relative to the etiology of pneumonia, do we see in these two cases, separated by an interval of eight days, affecting two members of the same family living in the same house, an example of contagion or simply one of coincidence? If the former, or if we are in doubt, should we direct the family to take the precautions of disinfection which hygiene demands as safeguards against all bacteriological affections?

M. BROCQ: There is more than one variety of pneumonia and all pneumonias are not contagious. The pneumonia *a frigore* of the country does not make victims of those about the patient; the pneumonia of the city, on the contrary, is often contagious. The different varieties of pneumonia present clinical characteristics which are sharply defined and, although I do not deny the existence of the pneumococcus, we are not yet sufficiently well informed of its nature and the conditions requisite for its pathogenic development.

M. GUELPA: I dispute the assertion of M. Brocq, that there are non-contagious pneumonias; for the existence of the pathogenic microbe, be it

that of Friedländer, Fränkel or others, may always be demonstrated. In this connection I may cite the case of the servant, in M. Chantemesse's laboratory, whose saliva injected into guinea pigs always produced pneumonia.

M. WEBER: Of course the contagiousness of pneumonia is associated with a microbe; but the microbe does not develop unless the soil is favorable. In animals infectious pneumonia is frequent and taking cold favors its development. There is a pneumonia of animals to which the term "pneumonia of the stables" is applied. This is always grave and difficult to cure; it attacks animals enfeebled by previous disease.

M. DUBOUSQUET: I agree entirely with M. Guelpa, so far as contagion by the intervention of various microbes is concerned. But aside from the microbe there is the question of soil, as M. Weber has so well said. During the epidemic of 1886, I attended an old man with pneumonia. His wife in turn was seized, and then the *concierge* of the house and his wife. The old man and the *concierge* were both addicted to liquor; the former died, the latter was dangerously ill. The two women, who were of sober habit, were only mildly attacked.

M. LAVAUX: During the epidemic in question, I myself contracted pneumonia. My comrades, the internes, cared for me with the greatest devotion, but not one of them had the disease. I doubt the contagious nature of pneumonia.

M. PETIT: Clinically and microbiologically it is difficult to distinguish the various forms of pneumonia, and though numberless cases of its non-contagiousness are observed, the deduction that it is never contagious does not follow. This being established it seems to me proper to always use prophylactic measures, just as it is prudent to do so in the case of tuberculosis.

M. BALZER: It is especially important to disinfect the sputum and all objects which have been soiled, for the pneumococcus may preserve its existence after the pneumonia has been cured.

M. LECERF: Not merely do pneumococci exist in the saliva of people who have been attacked by pneumonia, but they are very often found in the saliva of healthy people who have never had the disease.

M. TOLÉDANO: Is it not true that the entire course of pneumonia indicates a disease of infectious nature? The fever, the duration, the incubation, the cyclical evolution are the characteristics of all contagious diseases.

M. CRONIGNEAU: As we cannot be sure that the case of pneumonia in hand is not contagious, would it not be prudent to seek in every case to protect those who surround the patient? This was the question which I asked, and the discussion which has followed seems to me to have given an *affirmative* answer.—*Journal de Médicine de Paris*, June 30, 1889.

ON CONDURANGINE.—KOBERT (*Les Nouveaux Remèdes* obtained this glucoside from the bark of the condurango. It possesses two remarkable qualities: 1. If a water solution of it is heated to 40°, it coagulates; 2. If sea-salt is added to the water solution the condurangine forms a precipitate at the bottom (in these respects it resembles albumen). It has a well-defined toxic effect upon the central nervous system. When given in small doses it imparts to the walk of an animal an ataxic character which has some resemblance to that of tabes dorsalis. Besides this poison seems also to have an effect upon the peripheral nerves and the muscles. Electric irritability is at first increased, but diminishes afterwards. In large doses condurangine always causes a diminution of the appetite or complete anorexia; during the beginning of the period vomiting and a great deal of salivation was noticed in the carnivora. The fatal dose is 0.02 gr. per kilo of animals in carnivora and about 0.06 gr. in herbivorous animals. Does condurangine have a specific action on cancer cells? It is well known that of late the condurango bark has been much praised as a cure of cancer of the stomach. But this remains to be proven. It is administered either through the mouth or by injection of a sterilized solution.—*Journal de Médicine de Paris*, No. 21, 1889.

THE TOXIC ACTION OF COCAINE.—Cases of poisoning have been collected by DR. A. WÖLFLER from the various Austrian, German, British, French and American journals, as follows:

1. Instillation in the connective tissue sac of 15 drops of a 5 per cent. solution. Moderate symptoms of intoxication.

2. Twenty per cent. solution. Penciling of the nasal cavity.

3. Penciling of the larynx with a 20 per cent. solution (about 5 grm.).

4. Injection of 0.06 grm. of cocaine in the gums. Very severe symptoms of poisoning.

5. Injection of 6 drops of a 20 per cent. solution in the gums. Moderate degree of intoxication, without secondary effects.

6. Injection of 0.2 (!) in a case of facial neuralgia. Severe symptoms.

7. Injection of 0.021 grm. in front of the ear. Collapse; cold sweat; improvement in fifteen minutes.

8. An injection, by mistake, of 1.25 grm. in a case of sciatica. Congestion about the head, rapid pulse, quickened respiration, nervous symptoms.

9. Injection in the nasal cavity. Aphasia and agraphia.

10. Injection of a 5 per cent. solution under the periosteum of the jaw. Severe collapse in 5 cases.

11. Four centigrams in the eyelid. A doubtful case of intoxication.

12. Three-fourths of a syringeful of a 15 per cent. solution in the gums. Severe poisoning.

13. Injection of 0.75 grm. (!) in the urethra. Epileptiform convulsions, irregular heart's action, cyanosis, death twenty minutes after the injection.

14. Injection of about 0.2 in the urethra. Clonic cramps, cyanosis, rapid pulse. Patient revived in an hour. Patient suffered from epilepsy.

To these cases the author adds five others which occurred under his own observation, and from his analysis of the sum total concludes that cocaine, when employed about the head and face, is capable of producing much more serious results than when used in other parts of the body more remote from the brain. This corresponds somewhat with the observation that other agents, such for example as chloride of iron; when injected in the extremities hardly ever produce injurious effects, while injected in the face dangerous emboli of the brain not infrequently result. In all small operations on the extremities or trunk a gram of a 5 per cent. solution may be safely injected; whereas in the face, with the exception of the mouth and throat, and the hairy scalp, more than 2 centigrams should never be used.—*Wiener Med. Woch.*, No. 18, 1889.

EXTRACTION OF NERVES.—At the Congress of the German Surgical Society in Berlin, 1889, THIERSCH, of Leipsic, read a paper on the extraction of nerves. In order to tear out nerves, especially the trigeminus, with as little manipulation as possible and as close as can be to the base of the brain, it has been customary to grasp the nerve in its continuity in the direction of its length. In this procedure the nerves which are really grasped are drawn out, but not the branching twigs. It occurred to Thiersch to twist the entire bundle of nerves, and after a number of fruitless experiments he succeeded in constructing an instrument which is fairly well adapted to this purpose. It consists of a forceps which holds fast without cutting or slipping. One branch is concave, the other convex; these fit closely together and both are serrated, the serrations being smoothed off. In the five or six years since the writer began his experiments he has operated twenty-eight times, on seventeen patients. In five cases the supraorbital nerve was involved, in eleven cases the infraorbital, in three the lingual, in four the inframaxillary, and in one each the mental, the auricularis major, intercostalis, etc.

Horsley has operated fifteen times in cases of trigeminal neuralgia, with complete cures in about one-third of the cases. In obstinate, recurring cases he has opened the middle cranial fossa and cut through the branches of the trigeminus to the inner side of the foramen ovale. Horsley was obliged to abandon an attempt to extirpate the ganglion gasseri on account of hæmorrhage. He regards the diseases in question as mostly of peripheral origin.

Thiersch has repeatedly performed the operation at the foramen volurdum and foramen ovale, sometimes with trephining, but regards the operation as a difficult and dangerous one, calculated to produce functional disturbances. He has considered the extirpation of the ganglion gasseri, but has never attempted it because a portion of it is firmly attached to the dura mater. He believes that these neuroses depend generally upon peripheral changes, although he has seen cases of undoubted cerebral origin.—*Wiener Med. Woch.*, No. 19, 1889.

EXPERIMENTS REGARDING DEATH BY HYPERTHERMY, AND THE COMBINED EFFECT OF CHLORAL AND HEAT.—On the ground of experiments made on dogs, RALLIÈRE (Paris) arrived at the following conclusions: The body temperature may be increased to 5 or even 6 degrees Celsius above the normal if this increase is temporary and immediately followed by a cooling-off; the danger of hyperthermy lies in the duration only. Animals which have stood an overheating quite well may die within the next twenty-four hours; after the expiration of this period unfavorable occurrences are not apt to take place. If the animal has previously been given chloral the danger is incomparably greater; death often occurs sooner, at lower temperatures and with shorter duration of the effect. Often general convulsions will occur immediately after the increase of temperature, or later, within thirty-six hours; in this case the animals die with a subnormal temperature (as low as 26°), or with temperature nearly normal. Sometimes death ensues without previous convulsions. The author concludes that high temperatures or continued increase of body temperature are a contra-indication to the use of chloral. He also thinks that in administering medicine the degree of fever should be taken into consideration more than has been done so far.—*Centralblatt für Klinische Medicin*, No. 26, 1889.

ON SYPHILITIC ARTHRITIS.—In a résumé of a clinical lecture on this subject, M. KIRMISSON, of Paris, says: From a diagnostic standpoint the exact location of the pains and of the tumefaction at one or at several places about the joint are of vital importance. Another factor equally significant is the contrast between the oftentimes anatomical lesions and the lack of functional troubles. A patient with a tumefaction of enormous size on his knee still moves his joint with great facility. In other varieties of chronic arthritis, and especially in tubercular arthritis, such immunity is but rarely observed in the movements.—*Le Bulletin Médical*, No. 43, 1889.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

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PER ANNUM, IN ADVANCE.....$5.00
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JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, AUGUST 17, 1889.

REFLEX NASAL NEUROSES.

Five years have elapsed since DR. WILHELM HACH'S monograph: "Ueber eine Operative Radical-Behandlung Bestimmter Formen von Migräne, Asthma, Heufieber," etc., aroused, in those not intimately familiar with the possibilities in the case, a sense of skepticism by reason of the multiplicity and diversity of the pathological reflexes which were described as emanating from the nose. Certain forms of asthma, spasm of the glottis, cough, migraine, supra-orbital neuralgia, swelling and redness of the external nose, syncope, and epileptoid seizures, were attributed to nasal irritation, occasioned by hypertrophy of the turbinated bodies, polypus, and intra-nasal deformity. His observations were, in part, corroborative of those previously published by Dr. Daly, Dr. J. M. Mackenzie, and Dr. Fränkel, while the remaining ones have since been confirmed and supplemented by other writers.

Two essays reiterating these conditions, entitled respectively, "Cough in its Relations to Morbid States of the Nasal Cavities," and "Epilepsy Caused by Intra-Nasal Disease," were read at Newport before the Section of Laryngology and Otology of the American Medical Association, and Dr. J. M. Mackenzie, at the recent Congress of the American Laryngological Association, described similar phenomena which were excited by adenoid hypertrophy in the naso-pharynx.

The term "reflex" is, doubtless, often misappropriated, yet it has a definite significance, and the pathological reflexes which originate in nasal or naso-pharyngeal irritation and terminate in cough, laryngeal spasm, or asthma, follow much the same pathway as the physiological reflex known as sneezing. The nasal branches of the ophthalmic division of the fifth nerve and the nasal branches of the anterior palatine descending from Meckel's ganglion which is in connection with the superior maxillary division of the fifth nerve, conduct the sensory impressions to the medulla. It is there reflected to the respiratory, pneumogastric, and other centres, whence the deep inspiration, the forced expiration, and the coincident spasm of the pharyngeal and laryngeal muscles, termed a sneeze.

This mechanism, of course, varies somewhat with the different pathological reflex acts, and in the group constituted by reflex pareses, considerable complexity may enter by implication of the vasodilators through the superior cervical sympathetic ganglion.

But nasal irritation does not in every case result in reflex phenomena. Evidently still other conditions are essential.

Certain cases are in part determined by involvement, especially of the "sensitive areas" described by Mackenzie, of Baltimore, as limited to the nasal erectile tissue and particularly to the posterior ends of the inferior turbinals, but even then the tendency to evolution of reflex phenomena varies in different individuals. Functional derangement tending toward special susceptibility of certain nerve centres, including those wrought upon by peripheral nasal irritation, doubtless determines other cases; and chronic inflammation or a predisposition to acute congestive states of particular organs, unquestionably favors the development, at that point, of the ultimate link in the reflex chain. Thus, one affected with bronchitis would suffer the more readily from asthma excited reflexly by nasal irritation, laryngitis predisposes under like conditions to spasm of the glottis, and digestive derangements to migraine. So, in the completed cycle three factors obtain: nasal irritation, super-excitable nerve centres, and a susceptive peripheral organ. But the nasal irritation is the initial link without which the peculiar reflex is not excited and to which the other factors are subservient. It is the element most easily demonstrated, most readily removed, and eradication of which will accomplish a cure.

It is, perhaps, not as specifically stated as it should be by writers, that only a considerable

number of such neuroses have a nasal origin. Identical symptoms can proceed from distal irritation elsewhere than in the nose or from immediate disease of the organ of manifestation, and nasal irregularities, being general, may confuse the diagnosis by incidentally coexisting. Emphysema and nasal polypi are not uncommonly associated, but it would be unwise to expect the mere removal of the polypi to afford complete relief of the dyspnœa consequent upon the emphysema. Nevertheless the polypi should be removed, as in this and analogous states, benefit is thereby secured to nasal function and any possible reflex nasal element is eliminated.

Occasionally the relation of cause and effect between nasal disease and its reflex manifestation becomes apparent from the general history and symptomatology. Again, the diagnosis can be made by exclusion, and more rarely, an explosion of the reflex may be induced through artificial irritation by a probe to the sensitive area. But commonly only the subsidence of the reflex act following the removal of an associated nasal lesion will amount to a demonstration.

It is certainly "unnecessary where no inconvenience is felt to restore geometrical symmetry to the turbinated bodies or to invest the lining membrane of the nose with artistic merit," but the mere coexistence of a decided pathological condition or deformity in the nose with any one of the reflex acts known, at times, to proceed therefrom, should prompt the immediate correction of the nasal fault.

ILEUS.

The perennial effort of the medical world to secure some definite mode of treatment for intestinal obstruction (an indefinite ailment) praiseworthy as it is futile, has again made its appearance. This time at a recent meeting of the Berlin Medical Society, through the presentation by DR. GOLTDAMMER of a series of fifty cases, occurring in his own practice which he had treated without selection and consecutively, by large doses of opium. The results obtained by such treatment, (30 per cent recovery), compare very favorably with those of laparotomy—out of 328 cases of laparotomy collected by B. F. Curtis, 68.9 per cent. mortality—and invite our mature deliberation, especially when we bear in mind the common opinion extant among surgeons as expressed by Greig Smith, quoted by Jacobson, viz.: "To acute cases there can be but one termination *death*. . . . Certainly 95 per cent. of such cases die, hence the indication is clear enough (as clear as the indication to tie a bleeding) carotid artery."

Not that we may ever hope to discover a panacea for an ill posessing, a symptom-complex that may be evoked by the most varied of anatomico-pathological conditions; from intestinal concretions to cancer, mesenteric embolism to invagination; but because by so doing we may possibly disabuse ourselves of the notion that there is but one proper course to pursue in every case, as well as reap the benefit of the new truths always elicited on such occasions. Among the latter then the above quoted opinion is not wholly true.

"Success in this department will only come when a diagnosis has first been made, at least with reasonable surety. The practice of explorative laparotomy for every case is as yet to be condemned. Our statistics can only then be made more favorable than the expectant treatment, when we have selected those cases in which there is a reasonable hope." (Jacobson).

Just here it seems fitting to emphasize the fact that 30 per cent. of all cases recovered under such palliative treatment as full physiological doses of opium may be considered to be, when combined with rigid attention to diet. Also that the post-mortem examination of those dying under said treatment were as follows, 20 per cent. cancerous, 10 per cent. old cicatricial adhesions, 14 per cent. invaginations, 6 per cent. old or new perimetritis, 12 per cent. old strictures from cicatrices, and 4 per cent. tubercular peritonitis, extensive adhesions.

If we regard as incurable by any treatment the cases of cancer, the cases of tuberculosis with adhesions, and half the cases of invagination—such are the statistics for the latter—he is to be credited with results that "must give us pause"—over 50 per cent. recovery!

In concluding he presented the following deductions, which are thoughtful if not to be commended in every case.

1. To be operated are: Cases in which an invagination is clearly to be diagnosticated as shown by the youthful age; sudden onset; bloody stool;

absence of meteorism, possibly tenesmus; but above all a tumor.

2. In such cases of very acute inception as fail to receive benefit from the bold use of opium—7 grains in twenty-four hours—and in whom the symptoms of collapse continue after such treatment to increase. And,

3. Finally in those cases in which the opium has, for a time seemed to benefit only to have the symptoms reappear. If to these we add those which the surgical authorities are now almost unanimously agreed never to operate, (a) when an approximately correct diagnosis cannot be made; (b) when the patient is already moribund; (the statistics in the past have been spoiled by such surgery) or (c) when there is great cachexia with distention; we will not go far astray in our treatment.

As to diagnosis there is this to say: Bearing in mind that we may have all the symptoms as secondary to acute inflammatory processes; peritonitis, perityphlitis, etc., or likewise (and this without actual occlusion of the gut) in paralysis, embolus of the art. mesar. or external adhesions; that it is essentially differential, and must be made by exclusion. To do this some aid may be furnished by an effort on the part of the physician to answer the following five questions:

1. Is it mechanical or inflammatory, acute or chronic?
2. Is there a tumor palpable?
3. What is the location?
4. Is it a new growth?
5. Where was the initial pain?

1. The inflammatory ileus, (*ileus inflammatorius* of old writers) will differentiate itself from that which is of mechanical origin, by the history of fever with its concomitant symptoms of pain and tenderness, the former of a colicky, the latter of a localized character, the other systemic excitation rather than a depression. If constipation exist in the inflammatory obstruction, it is not so complete that some fæces cannot be reached by enemata. Having ruled out the inflammatory form, then decide as to the acuteness of the attack. Among the acute obstructions are to be classed volvulus; invagination; incarceration; almost always affecting the small intestine, and requiring operative interference for cure. Pain in the incarceration abrupt in its onset and continuous; while paroxysmal in intussusception and volvulus. The two quickly fatal, meteoric as well as meteorism, the last slow; no meteorism.

If *chronic* then we have to deal with the large intestine and carcinoma in by far the largest number of cases, though stenosis from syphilitic and tubercular origin are also factors here. How exceedingly essential however it is to differentiate between the sudden failure of compensation after a gradually occurring stenosis, and an acute obstruction, Rosenbach has recently demonstrated, making at the same time a taking parallel between this and the similar failures in other organs, like the heart, bladder, stomach, etc., where a time comes when the work becomes greater than the compensatory hypertrophy, and sudden absolute failure results.

Study the initial symptoms and prodromata!

2. Almost every case of invagination is accompanied by a characteristic sausage-shaped tumor, so much so that 70 per cent. are to be diagnosed; when we take into consideration the absence of meteorism, blood in stool, etc., with the tenesmus so characteristic. The rectum should be explored in *every case*, with the whole hand if necessary, when the tumor can usually be felt, as well as the answer to the fourth question elicited, for over 60 per cent. of the large intestine occlusions are located in the rectum and sigmoidea.

3. *Location.* Every case will be treated to a number of enemata before a positive diagnosis has been made. Knowing that the average rectum holds a pint, that 1½, 2 and 3 pints are required to fill the three segments of the sigmoidea, and never more than 9 pints the colon, we can approximate the location of the obstruction if we measure the quantity of fluids injected. This should be done gradually, gentle massage of the abdomen being employed, and an elevation of syringe 6 feet (which gives 2.6 pounds pressure). Vomiting of formed fæces is the only absolutely sure stercoraceous vomiting, and indicates that the location is at least below the valve. It is admitted that illy-smelling digesta come sometimes from the lower portions of the ileum.

The nearer to the pylorus the greater the suppression of urine. The *signe de Dance* is a depression in the right iliac fossa, due to the traction of an ileo-cæcal invagination, as it mounts upward and toward the mesial line.

The last question both aids in locating, as well

as from its nature determining the character of the obstruction.

A fitting conclusion to this will be the observations of R. H. Fitz, . . . "The diagnosis must be made in the first two days; the capacity of the colon determined before tympany develops. Make diagnosis by exclusion, seat by injection, variety by seat, age and antecedents. Treatment is surgical on the third day." To which we will only add, if the diagnosis *cannot* be made, *use opium. In medias tutissimus ibis.*

EDITORIAL NOTES.

HOME.

DR. W. P. MANTON, of Detroit, has received the appointment as consulting gynecologist to the Eastern Michigan Asylum.

FACULTY CHANGES.—The College of Physicians and Surgeons at St. Louis have added to the faculty Dr. Y. H. Bond, as Professor of Gynecology; Dr. Wm. Porter, Professor of Diseases of the Chest; and Dr. I. N. Love, Professor of Diseases of Children.

THE NEW YORK BOARD OF HEALTH.—The Sanitary Superintendent of the City Board of Health, Dr. Walter DeF. Day, has been compelled to resign on account of ill-health, after sixteen years of service. Dr. William A. Ewing has been appointed in his stead. Dr. Ewing has formerly had a long term of service in the Board, as Sanitary Inspector, going back after an absence of three years.

THE HOSPITAL AT BURLINGTON.—The Mary Fletcher Hospital at Burlington, Vermont, has added an ophthalmological service, with Dr. J. H. Woodward in charge. Dr. Richardson of the Visiting Medical Staff has resigned and Dr. J. C. Rutherford has been appointed in his stead. Dr. Walter Carpenter has been reëlected President of the Board of Trustees.

UNIVERSITY OF MICHIGAN.—It is reported that the Professorship of Surgery in the Medical Department of the University of Michigan has been offered to Dr. Charles B. Nancrede, of Philadelphia. He is the Senior Surgeon at the Episcopal Hospital in that city.

IMPROVEMENTS AT THE PROTESTANT HOSPITAL.—*The Weekly Medical Review* says: The Protestant Hospital Association (St. Louis) has recently been the recipient of some generous donations, amongst which we note the following: By Mr. and Mrs. Thos. B. Dyer, a strip of ground running along the south line of the hospital property, and which is equivalent to at least $1000. Mr. Alex. Largue, before his decease, expressed a determination to make a bequest to the hospital of $500. He died before he had completed his will, but his widow and son, Mr. Alex. Largue, Jr., have voluntarily paid over to the Hospital Association their proportion of this $500. Mr. Wm. R. Pye has shown his liberallty by donating $5000. That the hospital is in a flourishing condition is shown by the fact that the want of room compels the erection of an addition and the making of alterations to the extent of $10,000; this work is now in progress. Twenty-four new private rooms will be added.

ICE IN THE SICK-ROOM.—*The Sanitarian* says: A saucerful of shaved ice may be preserved for twenty-four hours with the thermometer in the room at 90° F., if the following precautions are observed: Put the saucer containing the ice in a soup plate and cover it with another. Place the soup plates thus arranged on a good, heavy pillow, and cover it with another pillow, pressing the pillows so that the plates are completely embedded in them. An old jack-plane set deep is a most excellent thing with which to shave ice. It should be turned bottom upward, and the ice shoved backward and forward over the cutter."

A MEDICAL INDEX.—*The Times and Register* has commenced the publication in its columns of a Medical Index which will contain a list of original articles published in exchanges, especially those of interest to the practitioner.

ALL HONOR TO HIM.—The *Albany Medical Annals* relates the following: One of the bright spots in the Johnstown disaster is furnished by a member of our profession. Among the mass of shattered humanity was Dr. Matthews. He had himself sustained the fracture of several ribs; but with the loyal instinct of the right-hearted physician he devoted himself to those about him who, with broken limbs and otherwise gravely hurt, were in need of some surgical help, besides cheering them with encouraging words. In the scattered and disjointed reports we have had but

a glimpse of this scene, but when the history of the great event is connectedly written, it is to be hoped that this episode will be found true and due honor given to the hero of it.

BIRTH RETURNS.—The *Medical Record* quotes the following from the *New York Herald:* Massachusetts has a new statute, which has just gone into effect, for securing a more perfect record of vital statistics. All doctors are required to report births, and for each birth reported the doctor gets a fee of twenty-five cents. No penalty is fixed for failure to report. This little fee is no great object, yet it is proper as recognizing that the State has no right to exact a gratuitous service from medical men—which it does when it calls for a whole series of certificates that must be given under penalties for failure, as with doctors in this city. The language of the Massachusetts statute is odd. It requires the doctor to report all births "at which he is present." Suppose the baby is born before the doctor gets there.

The New York County Medical Association has a special committee for the purpose of considering the certificate-grievance, with the view of securing as well more complete returns. A professional friend solemnly assures us that half his life is spent in writing certificates for life insurance, schools, judges, societies, and all kinds of health organizations. Great Britain and, we think, Germany wisely throw the responsibility of returning births upon the parents themselves. At all events, the legal opinion is that the State has no power to impose any service without providing a compensation.

FOREIGN.

A NEW USE FOR FLAGS.—The medical department of the Paris University will use a flag whenever a confinement is in progress in the lying-in wards. A blue flag indicates a simple confinement, a yellow flag a difficult labor, and a green flag that an operation may be necessary.

FRENCH CONGRESS OF SURGERY.—The fourth meeting of the French Congress of Surgery will be held in the large amphitheatre of the School of Medicine, Paris, from October 14 to 20. The following questions will be taken in the order of the day of meeting: 1. Results, direct and remote, of practical operation for local tuberculosis. 2. Surgical treatment of peritonitis. 3. Treatment of aneurism of limbs. Baron Larrey will preside. Dr. S. Pozzi, 10 Place Vendome, Paris, is the Secretary-General of the Congress.

LOW MORTALITY AMONG THE FRENCH TROOPS.—The health of the French army is constantly improving. The death-rate has fallen to 7.58 per 1000. This is the lowest point yet reached in this army, and it is lower than has been reported concerning any other of the European forces. The troops in Tunis exhibit the highest rate of mortality, about 19.4 per 1000. The disease which figures most prominently among the causes of death has been typhoid fever, which gives about one-tenth of the admissions to the hospitals, but even in this respect the conditions show a manifest improvement.

THE HEALTH OF THE POPE.—The age of Leo XIII is said to be 82 years, but his health is firmer and better than it was twelve years ago when he became Pontiff. He is described as active, robust and hearty for one of even a less advanced age, and he speaks of himself in far more promising terms than he did twelve years ago, when he told his friends that it would be useless to make him Pope, for he had only a few months to live, and his appearance then did not belie his words.

HYDROPHOBIA IN BRAZIL.—*The Lancet* contains an abstract of the first annual report of the Pasteurian Institute at Rio de Janeiro. It comprises the data of the work performed during the first eleven months of its existence. The first patient was received February 9, 1888, between which date and January 8, 1889, one hundred and six persons were treated for hydrophobia, with only one death. Sixty-two of the patients were undoubted cases of biting by dogs having rabies. The death is reported to have been the case of a young child who was not long enough under treatment to allow of the full Pasteurian method.

IN INDIA the *Indian Medical Gazette* has a vigorous article dealing with the need of an Imperial Sanitary Board. A new Women's Hospital is to be erected at Kurrachee at a cost of 40,000 rupees. Calcutta will soon be provided with an Ophthalmic Hospital through the liberality of a native gentleman, Baboo Churn Lahaa. Dr. Lall Madhull Mookerjee is the President of the Calcutta Medical Society. Typhus fever is epidemic in the Rawal Pindi districts.

TOPICS OF THE WEEK.

OCEAN CLIMATIC THERAPEUTICS.

The following are some of the things well said by DR. ALBERT L. GIHON, Medical Director U. S. Navy, in his Address before the American Climatological Association, in June last.

First, if season, course, and destination be judiciously chosen, the invalid will obtain, on a long voyage, in a comfortable sailing vessel, *rest*—of mind and body—a condition of absolute insouciance, and relief from the cares and distractions, the daily worries and anxieties of life, the interruptions and noise and turmoil and excitements which railroads, telegraphs, and newspapers bring into the very sick-room on land.

If not so completely bed-ridden (in which case he probably ought not to go to sea at all) but that he can lie in an easy chair on deck, he will be able to breathe and bathe in an air that is barren of every impurity, and with every inspiration experience a sense of pleasurable invigoration.

If sea-sickness is not an indomitable idiosyncrasy, as I have known it to be even in captains of the navy, he will, after a few days, when he "gets his sea-legs," as sailors term it, find inexpressible delight in pacing the narrow bounds of the quarter-deck, and lengthen the hours of this gentle exercise until they become whole watches long.

Once accustomed to the motion of the vessel and of the sea, nausea will give place to appetite, which is sharpened as well for old salts as land-lubbers, and the plainest food will be taken with unwonted relish, betokening improved assimilation. If care be had to overcome the usual tendency to constipation, ingestion may go on without restraint. The eagerly anticipated meal-hours become the eventful marks of the passage of time. The whilom patient eats and sleeps, and wakes to find new zest in the simple employments of the day. Rocked in the cradle of the deep, the ocean's lullaby soothes the sufferer into forgetfulness of his ills. . . .

Next to the transitory exposure to ocean climate in the course of a sea-voyage is the residence on some small mid-ocean island where there are few vicissitudes of weather, short range of temperature, and none of the physical befoulments from masses of men and animals or decaying vegetable matter. Here, even better than on shipboard, is to be found the opportunity for making ocean climatic influences available as curative measures. . . .

The therapeutic agencies which operate upon the broad ocean—rest, pure air, equable temperature and moisture, and the minimum of disturbing causes, are to be found in almost as great degree on the ocean islets, where the sound of rippling springs, the sight of fresh verdure, and the scent of earth replace the monotony of the horizon-bound disk of water.

These islets are dotted over the sea—numerous in Oceanica, where distance and rare opportunities of communication place them beyond convenient and frequent access--less numerous but easily reached in the Atlantic, where midway between the continents they invite the weary broken down sufferers in mind and body to find rest and sweet oblivious antidote for all their ills. The Azores, Madeiras, and Canaries are the chief among these "isles of the blest." The former, especially Fayal, about two thousand miles, ordinarily a pleasant fortnight's run from Boston, offer a climate so mild, that one need hardly look for a better, were it not that the better is to be found at Madeira, and a best of all at Orotava on the Island of Teneriffe, one of the group of the Canaries —*Las Canaris* of the Spanish, the *Insulæ Fortunatæ* of Roman geographers, whose mountain peaks stand above the waters like tombstones in this ocean cemetery, where a continent and its millions of Atlantean inhabitants are buried.

The Madeiras are but five hundred miles from the Azores, and the Canaries two hundred farther south, so that the way is easy to that delightful spot, which Humboldt thanked God he had lived to behold—the valley of Orotava, fit garden of another Eden, where he who would begin life anew may find everything save the vice and artificialities and malefic agencies of modern civilization.

Is it not time to stop and ask ourselves whether it be not the better part to place our patients where, amid Heaven's boundless supplies, the wiser air-cells, and blood-vessels, and lymphatics may themselves select just what they most require—where pure air and water, and good food, cooked to tempt the palate with half the art in making pretty portions to please both eye and taste, shall be the tonics to regenerate the blood till it revivify the worn-out nerves, repair the wasted tissue, and set once more in healthy play the vital machinery which animates and gives the body being? Mere drugs cannot do this, and drugs needlessly, excessively wrongfully administered, can only retard it. The pharmacist may oftentime be idle, but the therapeutist's task will be no lighter, for climato-therapy requires sound judgment, wise and discriminating adaptation of natural agencies, and the same watchful observation of the grade of action shown by the pulse, the condition of the organic fibre, and the state of the secretions, which are the sum of the physician's duty, however huge his pharmacopœia. If he can preserve tissue from destructive change, keep the emunctories in active play, and control the pulse's fitful beat, he may patiently bide his time for those forces to exert their power, which out of the germinal vesicle make the perfected man—out of the stomach's bole, the blood's living corpuscles, and out of these the sentient flesh and conscious brain.—*Medical News.*

THE MEDICAL SOCIETY OF DELAWARE.

This organization dates back to 1789, and accordingly this is its centennial year. The annual address delivered by W. T. SKINNER, M.D., of Glasgow, Del., is replete with historic as well as medical interest. We would be pleased to publish the entire address as found in *The Medical Bulletin*, but must content ourselves with a few brief extracts:

"The Medical Society of Delaware is one of the oldest institutions of the kind in this country, being probably

antedated only by the Massachusetts and New Jersey Medical Societies," and, to use a somewhat trite expression, it had its birth in the "times which tried men's souls." The colonies had, it is true, gained their independence, had adopted the constitution, and had just inaugurated George Washington, in New York, as the first President of the United States. But it was not all smooth sailing yet. We are told that the nation was confronted by grave financial embarrassment; its energies as well as its resources seemed exhausted by the prolonged struggle through which it had just passed. The people, so long accustomed to war, were now ill fitted for the pursuits of peace, and, feeling very keenly the pinch of hard times, soon began to be discontented, and rebellion threatened even the very existence of the newly organized Government. . . . .

Of the medical men whose services were so indispensable to the existence of our country in its earlier days none were more distinguished than those of Delaware. The first President of this Society, Dr. James Tilton, was a man of broad culture, and his distinguished services throughout the Revolutionary War very justly entitle him to be named as one of the trio of great men in the profession in that day, namely: Rush, Warren, and Tilton. He had the honor, as you know, to be elected to a professorship in the University of Pennsylvania, which he declined, in order to continue in his country's service, and upon the breaking out of the war of 1812–15 he was made Surgeon-General of the United States.

Dr. Joseph Philip Eugene Capelle, another one of the corporators of this Society, served upon the staff of Lafayette, and when the great general was wounded at the battle of Brandywine Dr. Capelle was the first to offer him surgical aid. Of Dr. Edward Miller, another of the patriots of the Revolution, and one of the charter members of this Society, its first Secretary, and the first to deliver the annual oration before it, the great Rush declared that "he was second to no physician in all this country."

It does not come within my scope to give an historical sketch of the members of our Society, the historian of the day has already attended to this part of the programme; but I have cited a few examples only from his statements, to show you that "our ancient record is an honorable one." "There were giants in those days," men who were further in advance of the times in which they lived than any we now number in our membership. . . . .

For one hundred years the meetings of the Medical Society have been the Mecca to which the faithful have journeyed once a year. Yes, journeyed is the term, for it must have taken at least three days for a man from Wilmington or Sussex to attend a meeting here in Dover —one to come, one to attend the meeting, and one to return home again. But to-day we step aboard of a fast train, have agreeable companions, and after spending an hour or so pleasantly chatting and, as the train proceeds, constantly deriving new pleasures by being joined at every station by old friends whom we have not seen since our last meeting, we reach our destination and find ourselves all together, Sussex, Kent, and New Castle. I will not attempt to describe what follows. It is a grand old reunion, and yet I doubt that so large a percentage of the medical fraternity attend its meetings to-day as there did in those good old days.

EFFECTS OF CORROSIVE SUBLIMATE.

The following symptoms have been observed in cases of poisoning caused by vaginal or intra-uterine injection with corrosive sublimate :

The alimentary canal. Thirst, foul breath, metallic taste, red or bluish color and swelling of the gums ; redness, ulceration and sloughing of different parts of the mucous membrane of the buccal cavity ; deep ulcers in the tonsils ; soreness and looseness of the teeth, and sometimes salivation; vomiting, abdominal pain, tenesmus; profuse stinking, often bloody, diarrhœa. The fæces contain mercury. It has been found in numerous cases after vaginal or intra-uterine injections of a solution of 1:3000, followed by the injection of plain water. Even when the solution was so weak as 1:4000, it was found in one case, but in the others not. In the majority of cases it is found the next day, and it is yet found a long time after discontinuing the use of the bichloride.

The uropoëtic system. There is a marked diminution in the amount of urine, rising to absolute suppression of the secretion. The urine is dark, grumous, contains much albumin, mercury epithelial cells from the kidneys and hyaline or granular casts.

The *skin* is often wet with perspiration ; it has been found hyperæsthetic, itching, pale or erythematous. Sometimes there is considerable swelling of the subcutaneous tissue.

The nervous system. In the beginning the patient is restless, and suffers from insomnia ; later she becomes drowsy, sometimes delirious ; and finally she collapses. In some cases spasmodic twitchings or cataleptic stiffness has been found in the extremities. The pupils are sometimes contracted as in opium poisoning. Sometimes there is a sensation of being choked.

The *pulse* is rapid and weak, the temperature subnormal.

Of these symptoms the most characteristic are the diarrhœa, the diminution or suppression of the urinary secretion, the stomatitis, the low temperature, and the presence of mercury in the urine and the stools, which may be found by chemical analysis.

The chief changes found after death are hæmorrhagic infiltration and extensive ulceration, sometimes diphtheritic patches and sloughs of the large intestine. In some cases a lower degree of inflammation is found in the ilium. Exceptionally, the œsophagus has been found inflamed. In some cases there has been found local peritonitis.

In the mouth and throat are found the above-mentioned changes.

Another constant change is parenchymatous nephritis. Sometimes deposits of phosphate of lime are found in the convoluted or straight tubules, but these calcareous deposits are often absent, and may, on the other hand, be found under different circumstances.

In some cases the substance of the brain was found dry ; in other there were extravasations of blood in the meninges.—GARRIGUES, *American Journal of the Medical Sciences.*

SOCIETY PROCEEDINGS.

American Ophthalmological Society.

Twenty-Fifth Annual Meeting, held at Pequot House, New London, Conn., July 17 and 18, 1889.

(*Concluded from page 210.*)

DR. EMIL GRUENING, of New York, read a paper on

THE USE OF THE CURETTE IN ANTERIOR TRACHOMA.

The speaker often referring to the various measures proposed for the relief of this condition, described an operation which he had employed in eleven eyes during the past ten years. A 6 per cent. solution of cocaine was first instilled. The surface of the cornea and the vessels present were then scraped away with a gouge-shaped instrument, and the vessels followed well on to the conjunction. The eye is then washed with boric acid solution, and warm compresses applied for four or five days. In three cases new vessels formed, and the operation was repeated. The ultimate result in all the cases was highly satisfactory. In old and protracted pannus, this operation may be recommended for its directness, simplicity and efficacy.

DR. S. D. ST. JOHN, of Hartford: I have used this operation in one case with the highly gratifying result of increasing the vision from $\frac{4}{200}$ to $\frac{16}{200}$. This has since still further improved.

DR. H. F. HANSELL, of Philadelphia, read a paper on

CORNEAL ABSCESS.

Describing its symptoms and referring to the differential diagnosis between it and ulcer. He protested against the use of cocaine in abscess or other inflammatory conditions of the cornea. A few drops of a strong solution will often destroy the epithelium. Instillation of eserine alternating atropine was recommended. Operative interference should be limited to evacuation of the pus.

DR. CHARLES J. KIPP, of Newark, read a paper entitled

FURTHER OPERATIONS ON MALARIAL KERATITIS.

The author had called attention to this condition in a paper read before the Society in 1880. He had seen 120 cases of the disease. In all there had been paroxysms of malarial fever, and in 90 per cent. the corneal inflammation followed a few days after a paroxysm. In 25 per cent. the patients had suffered from similar trouble in previous attacks of malaria. The inflammation of the cornea occurred in the form of respiginous ulceration, with narrow prolongations. The trouble began as a line of small grayish elevations, which soon broke down, forming a furrow of ulceration. In mild cases the duration is two or three weeks, while in severe cases it may last several months. There is a marked tendency to recurrence in subsequent attacks of malarial fever. In a few cases he had seen a similar affection in non-malarial individuals. The treatment consists in remedies directed to the general condition and in mild cases with warm fermentation. In severe cases a 1 per cent. or a 2 per cent. solution of nitrate of silver applied directly to the furrow after the use of cocaine answers well. In some very severe cases the actual cautery was employed. This arrested the progress of the disease and stopped the pain, provided the malarial trouble had previously been cured.

DR. HENRY D. NOYES, of New York: During the past fifteen or 20 years, I have met with cases of superficial keratitis due to malaria. It is rare to find the deeper tissues invaded. I am led to suspect a malarial origin in cases where there is exaggerated tenderness of the supra-orbital nerve and distinct anæsthesia of the surface of the cornea. The form of ulcerative keratitis which has been described I regard as of mycotic origin, and have cured it by scraping thoroughly the lines of infiltration.

DR. T. Y. SUTPHEN, of Newark; I have seen cases similar to those described by Dr. Kipp, in patients suffering with malaria, and where there has been no distinct chill, the individuals have resided in malarious districts.

DR. JOHN GREEN, of St. Louis: I have seen many cases in which malarial fever was followed by superficial keratitis, or keratitis modified by neglect or improper treatment. I have not met with the form described by Dr. Kipp.

DR. EMIL GRUENING, of New York: I have seen this form of ulcerative keratitis, but I have associated it with the teeth. These patients have had tartar on the teeth, and have been in the habit of moistening the lids with saliva. I think therefore that the source of infection is in the mouth.

DR. SAMUEL THEOBALD, of Baltimore: I have also seen for many years this keratitis associated with malarial trouble. These cases do not always show ulceration of the cornea. I have in a general way regarded this condition as analagous to herpes zoster. I have once or twice seen iritis associated with the keratitis following malaria. In one case of malaria I have seen this keratitis with herpes zoster of the temple.

DR. J. A. LIPPINCOTT, of Pittsburgh, read a paper on

IRRIGATION OF THE ANTERIOR CHAMBER.

This procedure is useful for the removal of débris in cataract extraction and of clotted or liquid

blood. In order to accomplish this successfully it is necessary to have an apparatus which can be readily made and kept aseptic; which will always be ready for use; which can be easily handled and the movement controlled with one hand; whose ejecting force is capable of being easily regulated: and which is free from liability of forcing air bubbles into the anterior chamber. As fulfilling these requirements he exhibited an apparatus consisting of a small metal receptacle with which was connected a rubber tube ending in a metal nozzle; the flow of liquid being controlled by a short piston in a rubber handle through which the rubber tube passed. The ejecting force can be varied by elevating or lowering the receptacle.

Dr. E. Gruening, of New York, exhibited a small flask devised by von Graefe for the same purpose.

Dr. David Webster, of New York, exhibited two specimens of sword fishes' eyes.

Dr. Henry D. Noyes, of New York, exhibited a spectacle frame in which the nose-piece of the eye glass was combined with the ordinary spectacle frame.

Dr. Henry D. Noyes, of New York, read a paper on

ENUCLEATION OF THE EYE IN PANOPHTHALMITIS.

There have been reported by observers thirty or forty deaths following enucleation, almost all from meningitis. About one-half of the fatal cases have occurred after enucleation during acute suppurative panophthalmitis. At the New York Eye and Ear Infirmary there have been no deaths from this cause when no additional operations in the orbit, such as the removal of tumors, etc., have been done. The number of enucleations from 1868 to 1888 was 1,164; the number of evisserations seventeen. Panophthalmitis existed in 14 per cent. of the cases. It seems fair to conclude that whilst a small risk to life is incurred by enucleation of the eye, the supposed increased risk by the existence of suppurative panophthalmitis is not so far justified by the facts as to bar its performance in this condition.

Afternoon Session.

Dr. H. Knapp, of New York, read a paper on

THE TREATMENT OF CARIES AND NECROSIS OF THE ORBIT.

The upper wall of the orbit is the most frequent seat of disease and here its consequences are most dangerous. In every case of caries and necrosis of the orbit the condition of the neighboring cavities, and especially the nose, should be carefully investigated. Foci of suppuration should be freely opened, the cavity thoroughly cleansed and drainage established. This can be well accomplished by small silver tubes provided with flanges. Rough bone should be scraped away with a sharp spoon. Necrosed portions of bone should be removed as soon as they become loose or when they can be detached without injury to adjacent tissues. The eyeball should be protected, and if there is insufficient closure of the lids, a plastic operation should not be postponed until the cornea becomes ulcerated from exposure.

Dr. H. W. Williams, of Boston, read a paper on

MULTIPLE CYSTS OF THE IRIS OCCURRING IN BOTH EYES.

The subject was a girl 9 years of age. In the right eye there was a projection resembling a large cyst extending from the upper margin of the pupil. A similar growth projected from the temporal border. At the inner margin there were two small pedunculated growths. All were of the color of the iris. In the left eye, two somewhat oval cysts filled the pupillary space. Through the square opening left in each pupil there was a little oblique vision.

Dr. T. Y. Sutphen, of Newark, read a paper on

SARCOMA OF THE OPTIC NERVE.

The patient was 10 years of age. The tumor involved the left orbit and was of two years' duration. It was mushroom-shaped and sprang from the optic nerve. Its size was $6 \times 5\frac{1}{4}$ inches, and 2 inches thick. It was readily removed with curved scissors. As much as possible of the nerve was removed.

Dr. George C. Harlan, of Philadelphia, read a paper on

EXTENSIVE VASCULAR GROWTH IN THE VITREOUS.

The patient, a woman æt. 50, presented herself November 29, 1888, on account of disturbance of vision. Examination of the right eye showed the fundus to be slightly hazy, with small, dull white spots about the macula, the remains of old hæmorrhages, but no recent exudation. The disc was obscured by a delicate network of vessels. Otherwise there was no opacity. There was no stroma. Up to March 2, 1889, there had been several retinal hæmorrhages, but there had been no change in the vascular membrane. Vision had been reduced to $\frac{20}{70}$.

Dr. O. F. Wadsworth, of Boston, described two cases of

EXTRACTION FROM THE VITREOUS OF PIECES OF STEEL BY THE MAGNET,

in which the piece of steel was removed by passing an electro-magnet into the vitreous through an opening in the sclera. In the second case, the operation was followed some weeks later by a separation of the retina beginning at a point opposite that at which the puncture was made.

Dr. J. O. Tomley, of New York, read a paper on

CORNEAL TRANSPLANTATION.

The speaker reported a case in which he had done this operation for opacity of the cornea. At

the first operation the opacity was not removed to its full depth, and although the cornea cleared to a certain extent the result was not satisfactory. The operation was therefore repeated, but without any improvement in vision. In both operations there was primary union of the graft and in neither was there any inflammatory reaction.

DR. L. WEBSTER FOX, of Philadelphia: I have performed the same operation in a case of opacity of the cornea where the patient could just distinguish light from darkness. The graft healed readily without inflammatory reaction, and the patient obtained useful vision and could almost count fingers.

DR. CHAS. A. OLIVER, of Philadelphia, read a paper entitled

AN ANALYSIS OF SOME OF THE OCULAR SYMPTOMS OBSERVED IN SO-CALLED GENERAL PARESIS.

These operations were made on twenty well-marked cases of general paralysis of the insane. The study was limited to subjects in the so-called second stage of the disease, where the psychical symptoms had become of such a character as to necessitate control and where motor and sensory derangement had become more or less manifest. Care was taken that each subject was seemingly free from any extraneous general disease or local disorder, and the entire study was limited to the male sex, so as to escape any conflicting or complicating changes that might appear in connection with the many diseases peculiar to the female sex. Thirty observations were made, resulting in the following summary:

1. The sensory changes herein described, which have been limited to unequal optic nerve degeneration, decrease of retinal circulation, with subnormal direct and excentric vision for both form and color, distinctly show lowered sensory response.

2. The motor symptoms, consisting in unequal and feeble movements of the irides, causing inequality and irregularity of pupillary areas, the peculiar form of ataxic nystagmus, the slight loss of ciliary tone, all express want of proper muscle action—true paresis.

3. The peculiarly local conditions shown in the fundus, such as the pigment massings, the crescents of absorption, the disturbed and granular condition of the choroid, etc., all indicate wear and tear of an abused and irritated organ.

4. Therefore these observations upon the ocular apparatus, which were most probably made during the second stage of the disease known as general paralysis of the insane, show not only local changes, but distinctly demonstrate that the series of sensory motor disturbances found, are but the peripheral expressions of one of the many indices of gradual loss of neural strength and power in this disease.

DR. GEORGE C. HARLAN, of Philadelphia, reported *A Case of Hysterical Blindness* of ten years' duration in a male 22 years of age.

DR. SAMUEL B. ST. JOHN, Hartford, described *A Case of Hemianopsia* with peculiar cerebral symptoms.

DR. B. ALEX. RANDALL read a paper on *Simple Tests of the Ocular Muscle.*

DR. T. Y. SUTPHEN, of Newark, N. J., reported

A CASE OF DOUBLE PURULENT CHOROIDITIS RESULTING FROM MENINGITIS.

February 23, 1887, was called in consultation to see G. W. B., a robust farmer, æt. 39 years. He had always been healthy with the exception of an occasional "bilious headache." Never had had any specific trouble. The history was that on February 9 he came in at noon perspiring very freely. That evening he suffered with intense headache. The next morning he was apparently well, but at breakfast had a violent chill with aching of the whole body. This was followed by high fever. Leaving the breakfast table was the last that the man remembered for three months. From this time the patient rolled and tossed in bed without decided delirium, but being in a stupid condition and easily restrained. Questions were answered only after frequent repetition and the replies ran off into complete incoherence. On the third day of the illness the body became quite rigid with the head thrown backwards. On the fourth day, the left hand and forearm became swollen and the right eye inflamed. The left eye became inflamed on the tenth day. Later the left foot became swollen. The swelling of the hand and foot lasted about a week and then subsided. The fever then became less violent and the general condition improved, but the mental sluggishness remained. There was no paralysis, no convulsion, no vomiting. At the end of the third week he had a slight chill, and another after he was out of bed.

At present the man is apparently in good health. He has lost none of his functions and the mind is perfectly clear. When first seen by the writer the eyes were in the following condition: No swelling of the lids; moderate pericorneal injection; cornea clear; anterior chamber normal in depth; irides slightly discolored. Pupils moderately dilated, with a yellowish reflex from the anterior portion of the vitreous. There was no perception of light. No tenderness on pressure, but a marked lowering of the tension of the globe. Three days later, the anterior chamber in each eye was obliterated by pressure from behind the lens, the eyeballs being harder than normal. One week later, the anterior chamber was again restored and tension had again fallen much below the normal. From that time there was progressive atrophy of both eyes until now there is left only the greatly shrunken globes, with, of course, absolute blindness.

In this case there must have been an extension of the intracranial inflammation along the sheath of the nerves and not a forcing of the products of inflammation forwards, as sufficient pressure within the cranium to produce this must evidently have become apparent by more or less paralysis.

The case is reported simply as a clinical contribution to this somewhat rare and obscure trouble, which is certain to be met with in the course of practice.

Thursday, Second Day.

Dr. O. F. Wadsworth, of Boston, reported a case of *Torticollis Cured by Tenotomy of the External Rectus.*

Dr. Myles Standish, of Boston, read a paper on

Partial Tenotomies in Cases of Neurasthenia with Insufficiency of the Ocular Muscles.

The author reported five cases in which he had performed this operation on account of constant headache, inability to use the eyes and neurasthenic symptoms. In all but one there was marked and prompt relief of the local and general symptoms by the operation. Cases requiring operation are comparatively rare.

Dr. David Coggin, of Salem, read a paper entitled

Notes on Some Vagaries of Accommodation.

A case was of hypermetropic astigmatism passing into myopia. A case of recurrent spasm of accommodation was also reported. The third case was one of temporary anomaly of sight occurring daily. In the morning could see well, but in the afternoon could not distinguish objects across the street. Double vision also occurred. The disturbance is gradually disappearing.

Dr. E. E. Holt, of Portland, read a paper on the

Effect upon the Accommodation of a Patient's Eye Caused by Looking into the Mirror Set Obliquely in the Room during Ophthalmoscopic Examination.

Directing the patient to look with one eye into a mirror set obliquely while the other was examined with the ophthalmoscope, an element of ease was found in making the examination, and of comfort and steadiness on the part of the patient never experienced before. The eye fatigues quickly in looking at a single object. Looking into the oblique mirror gives the impression of gazing into the distance. A notable change in the pupil will be observed when the patient is directed to look at an object at the distance of the mirror, and when he is directed to look at objects reflected from it.

Dr. O. F. Wadsworth, of Boston, read a paper on

Paralysis of the Sphincter Irides.

A case was reported of paralysis of the sphincter irides, without affection of the accommodation lasting several months, and following the instillation of homatropine in both eyes.

Dr. Samuel Theobald, of Baltimore: In all such cases it is important to exclude malingering. It would be possible for the patient by the use of a weak solution, to keep up the mydriasis without affecting the accommodation.

Dr. Samuel D. Risley, of Philadelphia: Another protracted explanation of such cases is the use of pipette previously used for a solution of a mydriatic, for a solution which contains no mydriatic.

Dr. John Green, of St. Louis, presented a series of *Geometrical Constructions, illustrating certain cases of oblique pencils refracted at cylindrical and spherical surfaces.*

Dr. John Green also read a paper on *Some of the Stereoscopic Alterations Evoked by Unequal Glasses placed before the two Eyes.*

Dr. Samuel Theobald, of Baltimore, read a paper on

The Employment of Oleate of Veratria to Facilitate the Determination of Errors of Refraction.

A mydriatic affords valuable aid in myopia and in hypermetropia, but in astigmatism its use is not so satisfactory. In astigmatism he had found great help from the use of a 10 per cent. oleate of veratria to the temple and forehead once a day for three or four days. This seems to exert a quieting effect upon the ciliary muscle, and especially of the radiating fibres and lessens the tendency to a symmetrical accommodation. The following rule was formulated in regard to the correction of astigmatism: When the astigmatism is according to the rule, we need correct only that which is readily made manifest. On the other hand in astigmatism against the rule, we are warranted in arresting fully every part of the defect which can be rendered manifest.

Dr. E. E. Holt, of Portland, read a paper on

The Inefficiency of Hydrobromate of Homatropine in Controlling the Accommodation for the Purpose of Fitting Glasses.

The experience of the writer was that this drug could not be relied upon. He reported one case in which the lateral hypermetropia revealed by 3 per cent. solution of hydrobromate of homatropine, was just one-half of that revealed by 1 per cent. solution of atropia.

Dr. Edward Jackson, of Philadelphia: I have found homatropine entirely satisfactory

when used properly. The instillations must be repeated at short intervals five or ten minutes, and three or four instillations practiced. The effect rapidly passes off, and the examination must be made within one or two hours. I have followed the use of homatropine by another mydriatic without alteration in the result.

DR. EDWARD JACKSON, of Philadelphia, read a paper on

AMETROPIA AS DETERMINED UNDER COMPLETE MYDRIASIS.

He had examined 4,000 eyes under complete paralysis, and presented the following table of his results. These were compared with results obtained by another observer:

	With Mydriasis.	Without Mydriasis.
Compound hyperopic astigmatism. . .	40 %	9½ %
" myopic " . . .	9 "	11 "
Simple hyperopic " . . .	6 "	16½ "
Simple myopic " . . .	2 "	24 "
Mixed astigmatism	6½ "	2 "
Hyperopia	31 "	10 "
Myopia	4 "	9½ "
Emmetropia	1½ "	17½ "

DR. JACKSON also presented a paper on *Accuracy in the Prescription of Prisms.*

DR. W. S. DENNETT, of New York, read a paper in which he suggested a *New Unit of Angular Measurement for Prismatic Glasses.*

DR. GEORGE C. HARLAN, of Philadelphia, exhibited *Periscopic Cylindrical and Sphero-Cylindical Lenses.*

DR. W. F. MULTENDORF, of New York, reported

A CASE OF AMBLYOPIA DUE TO CHLORAL HYDRATES.

The object was to put on record a case of toxic amblyopia, due to chloral hydrate. The patient had for six months been in the habit of taking 40–60 grains of the drug at night to induce sleep. Suspension of the drug relieved the amblyopia.

EXECUTIVE SESSION.

Officers for ensuing year: President, Dr. Hasket Derby, Boston; Vice-President, Dr. George C. Harlan, Philadelphia; Secretary and Treasurer, Dr. Samuel B. St. John, Hartford; Corresponding Secretary, Dr. J. S. Prout, Brooklyn; Delegate to the Executive Committee of the Congress of American Physicians and Surgeons, Dr. John Green, St. Louis; Alternate, Dr. D. B. St. John Roosa, New York.

The following were elected to membership: Dr. Carl Koller, New York; R. A. Reeve, Toronto, Canada; Dr. David Harrower, Jr., Worcester, Massachusetts; and Dr. George E. de Schweinitz, Philadelphia.

The Society then adjourned to meet at the Hotel Katerskill, the third Wednesday of July, 1890.

American Otological Society.

Twenty-second Annual Meeting, held at the Pequot House, New London, Conn., July 16, 1889.

The Society was called to order by the President, DR. J. S. PROUT, of Brooklyn.

DR. B. ALEXANDER RANDALL, of Philadelphia, read the first paper, entiled

INFLAMMATION OF THE TYMPANIC ATTIC AND PERFORATION IN SHROPNELL'S MEMBRANE.

The author reported twenty cases, fifteen of which had been seen in the past six months, and urged that the condition was not a rarity. It often coexists with one or more perforations of the other parts of the drum head. If sought and recognized early, it is a less tedious and serious matter than these attic inflammations are generally considered to be. He cited some 120 cases reported by several observers among 10,000 patients, and while he had seen a still larger proportion, accepted this as the average. Passing over the treatment as having been already thoroughly discussed, he turned to the question of causation, and cited the view of Walb that infection from without through a "foramen Ravinii" was the starting-point. Contesting this view as to any colobomatous opening in the flaccid membrane as wholly negatived by modern embryologists, he urged that the individual variations in the septa in the attic predisposed some cases to localized inflammation and led to perforation at this point; and that these cases, neglected or recurrent, formed the group from which the usual obstinate cases were derived. He therefore advocated scrupulous search in all cases for disease in this locality as promising to nip in the bud what might later become disease notoriously difficult to control. The paper was illustrated by drawings and photographs of specimens.

DR. S. O. RILEY, of Philadelphia: I have frequently seen perforations elsewhere associated with perforations in Shropnell's membrane. The presence of perforations in other parts of the drum membrane does not exclude its presence in Shropnell's membrane.

DR. J. O. TANSLEY, of New York: I have never met with perforation of the drum to which the doctor refers, associated with perforation in other parts of the drum. A singular thing is that we so rarely get the perforation whistle.

DR. S. O. RICHEY, of Washington: I do not think that perforations of Shropnell's membrane are so common as has been stated. My experience with the absence of perforation whistle corresponds with that of others. I have had cases in which perforations in other parts of the drum healed but the perforation in Shropnell's membrane persisted. In treating these cases, besides using measures through the external auditory

meatus, I have employed injections through the catheter consisting of nitrate of silver 1 part, boric acid 10 parts, glycerine 20 parts and water 500 parts.

DR. GORHAM BACON, of New York: I have not observed this condition so frequently as Dr. Randall. It is often difficult to see these perforations. In treatment I have generally used Blake's extra-tympanic syringe. By persistent syringing and the use of astringents, cicatrization is often produced. These cases are, however, very tedious.

DR. J. A. ANDREWS, of New York: In treating these cases in which there is purulent inflammation of the attic with a large hole in Shropnell's membrane, after injecting the cavities, I wash out the fluid by means of this instrument, consisting of a delicate metal tube with a curved extremity to which is attached a rubber tube. I use simply a boric acid solution. After washing out the fluid I dry it with cotton wrapped on a probe. I then blow in a fine cloud of boric acid.

DR. HERMAN KNAPP, of New York: There is a capital difference between perforations in the upper and those in the lower part of the drum membrane. Those in the lower part may close in a few days, while in the upper part they may continue for months or years. I think this is due to difference in anatomical structure. The lower portion is a specific tissue with little association with periosteum, while the upper part is a duplicature of periosteum and skin. When the latter part is affected the process extends to the periosteum, leading to caries and necrosis of the bone.

DR. F. M. WILSON, of Bridgeport, Conn., reported

THREE DEATHS FOLLOWING SUPPURATIVE OTITIS, WITH TWO AUTOPSIES.

Cases in which death follows a first attack are so rare that it was thought of value to report these cases. The first patient was æt. 40 years, who for two weeks before coming under observation had had pain in both ears. February 27, 1888, the pain in the left ear became very intense. March 1 he became partially unconscious and remained so, with occasional convulsive movement, until March 6, when he died. The mastoid was drilled ½ inch but no pus found. No autopsy was made.

The second case was a male æt. 23 years, who was attacked with subacute otitis March 11. Symptoms of meningitis appeared, with high temperature, and he died March 27. At the autopsy one-third of the base of the cerebrum was involved in the purulent process, which extended up under the frontal convolutions. There was about ½ oz. of turbid fluid between the dura mater and inner meninges. There was pus in the labyrinth and in the tympanic cavity.

The third case was that of a boy æt. 10 years, who was attacked with suppurative otitis September 5 and died about ten days later. At the autopsy the meninges were found normal, but an abscess containing 2 drachms of fluid was found in the cerebellum.

Dr. Wilson also presented a *Mastoid Drill*, provided with a guard which could be set at any desired point, regulating the distance to which the drill entered. The edges of the drill are sharp, so that the opening can be enlarged horizontally to any desired extent.

DR. GORHAM BACON, of New York: It seems to me that in these cases where we do not find any collection of pus in the mastoid cells, we are justified in investigating the condition of the brain.

DR. J. O. TANSLEY, of New York: I have had several of these cases, and have without success sought for some means by which we could differentiate between those cases in which there was meningitis and those in which there was abscess. In one case, Dr. Seguin made a diagnosis of abscess based upon conjugate deviation of the eyes. Subsequent autopsy showed the correctness of this diagnosis. In another case I suspected abscess. Dr. Weir opened the mastoid but found no pus. We also exposed the cerebrum, and two days later the cerebellum, but found no pus. The patient died of suppurative meningitis.

DR. S. D. RISLEY, of Philadelphia: It seems to me that in the differential diagnosis attention to the temperature in connection with symptoms of pressure is of great importance. In meningitis the temperature from the outset will be higher than in abscess, and the symptoms of pressure come on later.

DR. J. A. ANDREWS, of New York: In the past year I have made a number of autopsies in cases of brain abscess. Brain abscess may continue for a considerable time without any very positive symptoms, but where there is meningitis or phlebitis, there is usually a sudden rise of temperature with chills.

DR. OREN D. POMEROY, of New York: In a case of brain abscess secondary to tympanic disease the only marked symptom was a sudden rise of temperature, sometimes going up in half an hour from normal to 107°. Intelligence was unaffected until the last. The man gradually improved but died suddenly. The autopsy showed a large abscess of the brain covering the petrous portion of the temporal bone.

DR. ARTHUR MATHEWSON, of Brooklyn: It is often difficult to make a diagnosis between abscess and meningitis, and in fact many are mixed cases. In meningitis the pain is more marked than in abscess. In meningitis there is more likely to be optic neuritis, while in brain abscess I have noted a peculiar dark appearance about the retinal veins.

DR. SAMUEL THEOBALD, of Baltimore: The treatment of the preliminary stages of these cases

is important. It seems to me that a great deal might be done to prevent the occurrence of the conditions referred to. I have found benefit from local applications, especially atropia and cocaine and morphia and cocaine. If the bowels were constipated I should use a calomel cathartic. If there should be symptoms of cerebral implication I should administer mercury in some form to secure its constitutional effect.

DR. E. FRIDENBERG, of New York: During the past eighteen months I have made autopsies in two patients dead from cerebral abscess. In one case suppuration had lasted a year, but there had been no symptoms until a week before death, except irritability of temper. There was some odor, but very slight discharge from the ear. A week before death the patient developed pain in the ear, slight tenderness over the mastoid, followed by fever and symptoms of brain pressure. A small abscess was found in the temporo-sphenoidal lobe. The roof of the tympanum was carious and the meninges strongly adherent. In the second case the patient had had suppuration for years. Two months before death headache occurred, which was relieved by treatment. It recurred, with fever. There was some pain on pressure over the mastoid process. The symptoms again disappeared under treatment. Three weeks later he returned with similar symptoms. The next morning vomiting occurred, and that evening he died. An abscess containing two ounces of pus was found in the temporo-sphenoidal lobe.

DR. T. Y. SUTPHEN, of Newark: These cases of brain trouble almost invariably follow the arrest of the flow of pus. We should look upon these cases as instances of local trouble and should treat the middle-ear by fomentations, and perhaps by poultice to bring about free discharge of pus.

DR. R. A. REEVE, of Toronto, Can.: In one case of death following acute suppurative otitis, there was the most profuse purulent discharge that I have ever seen, and it continued from beginning to end.

DR. B. ALEXANDER RANDALL, of Philadelphia: A case of cerebral abscess occurred in my practice last year in a boy, the subject of scrofulous disease of the elbow and other joints. I found both ears discharging, with caries of the auditory meatus on both sides. On the left all the mastoid tissues were involved. Under treatment the right side rapidly improved and on the left side there was also improvement. The case was then transferred to my surgical colleague. Six weeks later the ears were still in good condition, but the patient was gradually failing from the constitutional trouble. An hour before death there was suddenly a discharge of at least two ounces of fetid pus from the ear. There was no meningitis, but a large abscess cavity was found in the spheno-temporal lobe and ½ inch from the tympanum and connected with it by a sinus. In cases where it is thought justifiable to perform exploratory trephining of the brain an admirable and safe point is 1¼ inches behind, and an equal distance above, the upper posterior margin of the osseous meatus. This avoids the major blood-vessels, and it would be favorable to reach the cerebellum through it.

DR. E. E. HOLT, of Portland, Me., reported a case of

COMPLETE CLOSURE OF BOTH EXTERNAL AUDITORY CANALS BY BONE IN A PATIENT HAVING GOOD HEARING POWER, WITH A PREVIOUS HISTORY OF CHRONIC SUPPURATIVE OTITIS MEDIA.

T. M., age 18 years, was seen in April, 1889, for an affection of the eye. It was incidentally learned that he had had abscesses in both ears when 7 years old and the ears discharged more or less for six years, but stopped entirely five years since. Examination showed the canals of both ears of about half the usual length and occupied by a continuation of the skin of the meatus, with no appearance of the membrana tympani. There was complete closure of the canal by what appeared to be bone by all the tests employed.

The hearing power for the voice was good. The stop-watch was heard only when close to the ear; the tuning-fork was heard about ninety seconds, both by bone and aerial conduction. König's rod, of thirty thousand vibrations per second, was heard by both ears. He heard less distinctly when both ears were closed by pressure on each tragus. Shutting the mouth and closing the nostrils did not seem to affect the hearing power much, if at all. Cases of closure of one meatus with the skin of the canal continuous over the obstruction have been observed, but the hearing power is very defective. Cases in which there is a small opening between the exostosis and the walls of the meatus are not uncommon.

DR. SAMUEL THEOBALD, of Baltimore: Four or five years ago I reported a case very similar to the one described. The newly-formed membrane was, however, nearer the orifice. The hearing power was good.

DR. B. ALEXANDER RANDALL, of Philadelphia: I have had one case in which one ear was obstructed by a bony mass. There was no evidence of exostosis. The hearing was, however, defective.

DR. E. E. HOLT, of Portland, Me., reported a case of

OTITIS MEDIA CATARRHAL ACUTA

accompanied with facial paralysis and impairment of accommodation of the eye of the affected side. Judging from statistics one would be led to believe that paralysis of the facial nerve in connection

with the acute catarrhal inflammation of the middle-ear was not a common complication. In many cases the pain having been slight and having passed off and the paralysis having come on the patient's attention is directed to this and he seeks advice for the latter affection and the cause of the paralysis is recorded "a cold," or "rheumatic."

F., aged 24, seen May 19, 1889. Seven days before he took cold and right ear began to pain that night. This pain continued three days, when it subsided, and on the fourth day he was unable to use his lips properly. Examination showed all the characteristics of facial paralysis. Testing the eyes there was found paralysis of accommodation of the right eye. This the author knew to be a fact, because he had previously had the patient under his care and recorded the test of his eyes, and also by the fact that since the improvement of the paralysis of the face the paralysis of accommodation has disappeared.

Dr. S. O. Richey, of Washington, D. C., read a paper on

THE PHYSIOLOGY OF THE INTRA-TYMPANIC MUSCLES.

The paper was the elaboration of a suggestion made by the writer in the discussion of a paper read by him at the Congress of American Physicians and Surgeons in 1888. If the membranum tympanum in purpose protects the aural tissues lying interior to it the muscles being appendages to the membrane are designed to assist the purposes of the membrane, which they do in part by protecting it from injury by the impact upon it of sound impulses violent enough to rupture an inflexible membrane firmly attached and having such a plane as to expose it to the fullest force of the concussion. The membrani tympani fulfils one of these conditions, it is firmly attached. He quoted Toynbee and Henle as having many years ago expressed somewhat similar views as to the action of the tympanic muscles, and states that he can find no reference to this subject by later writers. The shape and other peculiarities of the auditing meatus, the elasticity and capacity for motion of the drum membrane and its oblique position with relation to the meatus; the coördination between the palatal and the intra-tympanic muscles converting the tympanic cavity into an air-cushion, all indicate a similar purpose on the part of nature to guard the membrani tympani immediately and the labyrinth mediately from violence.

Evening Session.

Dr. Gorham Bacon, of New York, exhibited photographs of the ear.

CYSTS OF THE AURICLE.

Of late a number of cases of so-called cysts of the auricle have been reported. Not one of these, however, seem to represent a genuine cystic tumor such as is found in other parts of the body. They all were situated on the anterior surface of the pinna, and were of rapid development. They either were the results of traumatism, and contained a sanguinolent fluid, or they developed without known cause. Mild inflammatory symptoms were present in all. The development within two or three weeks in almost all cases distinguishes them clearly from the slow and non-inflammatory development of true cystic tumors. All got well either by spontaneous absorption or by incision. The speaker had seen at least half a dozen of these cyst-like sub-perichondrial swellings of the auricle. He considered them to be mild cases of perichondritis, for these mild cases of circumscribed perichondritis may, instead of getting well, remain in this condition for a time and then develop into the full picture of a diffuse perichondritis. He reported such a case.

Dr. Knapp also described a case of genuine cyst of the auricle occurring in a girl 19 years of age. The growth was double the size of a large filbert, distinctly cystic, and had developed without known cause and without any inflammatory symptoms. The cyst was removed by operation, without rupture, and was exhibited. These tumors are not frequent in the auricle, but they can not be so rare as we might infer from otological literature.

Dr. Wm. H. Carmalt, of Hew Haven, presented a case of

EPITHELIOMA OF THE MIDDLE EAR.

The patient, a robust man aged 47 years, was first seen in June, 1888. On account of a suppurating ear (left) which had existed 42 years and had followed measles. The ear had given him no inconvenience with the exception of the discharge until a few weeks before he came under observation. He then began to have pain in and around the ear, and the discharge was exceedingly offensive. The canal was blocked by a ragged but firm excrescence, very sensitive to touch. There was slight tenderness, but no swelling or pitting over the mastoid. The pain radiated through the side of the head and interfered with sleeping. At the second visit the left side of the face was completely paralyzed. The case was regarded as one of epithelioma of the skin of the canal. The patient was seen by another gentleman, who thought the trouble might be a carious antrum. An attempt was therefore made to open the antrum, but the bone around it was so sclerosed that the cavity was practically obliterated. There was nothing of the nature of an abscess in the mastoid. The incision was then prolonged through the soft parts and into the external auditory canals. What polypoid could be reached were removed and a drainage tube inserted. The mass removed proved to be carcinomatous. In the course of a few weeks the ear

again became blocked up and the skin became involved. With the object of alleviating some of the distressing accompaniments of the condition, another attempt was made to clear it out. By chiseling away the bone posteriorly, free access to the ear cavity was obtained and the bone scraped apparently clean. No auditory apparatus was seen, simply a mass of carcinomatous tissue. The cavity was washed with a solution of resorcin and for a time the wound did well, but subsequently the disease reappeared. The discharges became again offensive and the patient exhausted, and he finally bled to death without the condition being detected, probably from erosion of the lateral sinus. No autopsy was permitted.

DR. B. ALEX. RANDALL exhibited a series of *Photographs*, and made some remarks on the use of photographs and of the lantern in teaching otology.

Dr. Randall also reported five cases of *Supernumerary Auricle*, four of the right ear, one of the left ear.

DR. T. Y. SUTPHEN, of Newark, exhibited a *Mummified Pea* which he had removed from the auditory canal, where it had lain for 19 years. The patient had been deaf in that ear since childhood. He heard the watch at one inch. After removal of the foreign body the hearing was almost normal.

DR. B. ALEX. RANDALL made some remarks upon the anatomy of the drum membrane.

DR. HUNTINGTON RICHARDS, of New York, read a paper entitled

TWO NOTEWORTHY CASES OF TRAUMATIC RUPTURE OF THE MEMBRANI TYMPANI.

Case 1.—Seen May 7. A woman æt. 30, two days before had received a box on the left ear. The symptoms were vertigo tinnitus and marked deafness. There had been no bleeding or other discharge. There were some evidences of pre-existing tympanic catarrh, in that it was somewhat depressed and moderately atrophic. Save for pronounced congestion of the manubrial vessels and a narrow red line along the border of the opening, it was not congested. The exposed inner wall of the tympanum was likewise pallid, secreting only sufficient mucus to give its surface a glistening appearance. The patient was directed to let the ear alone and a small, loose cotton obturator was placed in the auditory meatus.

Case 2.—A woman, æt. 23. Came under observation May 22. There was no discharge or bleeding. There was no congestion of the membrane or of the tympanic wall. The patient had complained of aural symptoms for several weeks. On May 21st she consulted a physician, who introduced a cotton-covered probe. This made her so dizzy that she had to lie down immediately and within two hours she discovered that she was very deaf.

The treatment was negative, and up to May 31st no change had occurred. The edges of the opening were then stimulated with nitrate of silver solution and a small quantity of boric acid was insufflated. Examination made a few days later showed that the opening had healed, with the exception of a small part. The patient then passed from observation.

EXECUTIVE SESSION.

Officers for ensuing year:

President, Dr. Oren D. Pomeroy, New York.

Vice-President, Dr. Gorham Bacon, New York.

Secretary and Treasurer, Dr. J. J. B. Vermyne, New Bedford, Mass.

Members of Executive Committee of Congress of American Physicians and Surgeons, Dr. W. H. Carmalt, New Haven; Alternate, Dr. F. B. Loring, Washington, D. C.

Committee on Membership, Drs. Arthur Mathewson, Samuel Theobald and S. D. Risley.

Committee on Publication, Drs. J. J. B. Vermyne, C. J. Blake and J. Orne Green.

A committee consisting of Drs. S. C. Ayres and Wm. W. Seeley was appointed to prepare a minute on the death of Honorary Member Dr. E. Williams, of Cincinnati.

The following were elected to membership: Drs. Harlan P. Allen, Columbus, O.; Ralph W. Seiss, Philadelphia, Pa.; David Harrower, Jr., Worcester, Mass.; Robert Barclay, St. Louis, Mo.; Neil P. Hepburn, New York, N. Y.

BOOK REVIEWS.

A TREATISE ON SURGERY; ITS PRINCIPLES AND PRACTICE. By T. HOLMES, M.A., Cantab, Consulting Surgeon to St. George's Hospital, etc. With 428 illustrations. Fifth Edition. Edited by T. PICKERING PICK, Surgeon at St. George's Hospital, etc. Philadelphia: Lea Bros. & Co. 1889. Chicago: A. C. McClurg & Co. Pp. xxiii–1008. Price $7.00.

The fifth edition of this well-known work, although bearing evidence of considerable emendation, represents about the same purposes as did the earlier editions; it aims to occupy an honorable place among the text-books in use in the schools, and is intended to be in a sense an introduction to Holmes' System of Surgery. The general arrangement of the work has not been disturbed, except as regards the chapter on Diseases of the Eye, which has been omitted as requiring too much of the limited space of the entire treatise were it emended so as to fairly represent the present status of ophthalmic surgery. In other respects the editor has endeavored to bring the work up to the standard of our present knowledge of

surgery without altering the general character of the work.

Among the subjects which have received the most attention in this revision, are inflammation, wounds, tumors, diseases of the bones and joints, abdominal surgery and intestinal obstruction, diseases of the breast, and operative treatment in reference to cerebral localization. It has evidently been the aim of the editor to maintain the conservatism of the older work by introducing little of anything too recent to have become in a measure classical, but one would think that a little more might have been said of recent advances made in England and in this country in the direction of the surgery of the brain, intestines, thorax, joints, etc., but little reference being made to the important advancement in these departments during the last three years; nor does it seem necessary to have retained such antiquated and ambiguous expressions as "scrofula," where tuberculosis is meant, and "caries," where definite diseases are under consideration.

The work, notwithstanding minor shortcomings, is one of the very best of that class which aims at being comprehensive in scope and concise in detail.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. $10 00 a year. Single copies, $1.00. Vol. 2, No. 3, June, 1889, and Vol. 3, No. 1, July, 1889. New York: William Wood & Co., publishers.

The June number of this series is a volume of 350 pages, entirely devoted to "General Orthopedics, including Surgical Operations," by Dr. August Schreiber, Surgeon-in-Chief of the Augsburg Hospital. This is a work of great interest and is rendered particularly valuable by reason of the large number of its illustrations descriptive of deformities and deformity apparatus. The bibliographical references are extremely numerous, and much attention has evidently been given by the author to the recent works of American and English writers. The following chapter headings will serve to give an idea of the scope of the work:

Chap. 1. General Orthopedics. Surgical Orthopedic Operations.
Chap. 2. Rachitis.
Chap. 3. Torticollis.
Chap. 4. Deformities of the Spinal Column. Deformities of the Thorax.
Chap. 5. Orthopedic Affections of the Extremities.
Chap. 6. Contractures of the Foot.
Chap. 7. Deformities of the Toes.
Chap. 8. Paralytic Deformities.
Chap. 9. Orthopedic Affections following Fractures and Luxations.
Chap. 10. Congenital Luxations.

The July number contains the following monographs and lectures:

"Cancer and Cancerous Diseases." By Sir Spencer Wells.

"Cardiac Dyspnœa and Cardiac Asthma." By Dr. S. von Basch.

"The Influence of Menstruation and of the Pathological Condition of the Uterus on Cutaneous Diseases." By Dr. L. Grellety.

"Torsion as met with in Surgical Practice; Inflammation of Bone; Cranial and Intercranial Injuries." By T. Bryant, F.R.C.S.

"Antisepsis and its Relation to Bacteriology." By D. J. Neudorfer.

Sir S. Wells finds that cancerous diseases are increasing in proportion greater than that of the increase of population, this being as true in the United States as in Great Britain. He believes, with Virchow, that so long as cancer is a local disease, it is curable. In cancer of the uterus, where the disease is limited to the parts near the os, he prevents intra-vaginal amputation by means of galvano-cautery; where the disease has extended much higher he advises total extirpation of the organ.

Prof. von Basch compares the pathology, symptoms, diagnosis, cause and treatment of cardiac dyspnœa and cardiac asthma, and gives short reports of a number of interesting cases by way of illustration.

Dr. Grellety considers briefly the relation between uterine and cutaneous pathology, together with certain considerations regarding etiology and therapeutics.

Mr. Bryant's article is the most extensive one in the volume. It is in the form of three lectures. The principal topics considered are as follows: The causes, effects and treatment of tension as met with in surgical practice; diagnosis of tension; tension from new growths; tension the result of inflammation; effects of tension as illustrated in inflammation of bone; cranial and intracranial injuries. Reports of numerous illustrative cases are included in the monograph.

Dr. Neudorfer gives a short account of the history and present status of antisepsis with its relation to bacteriology. He also gives an excellent synopsis of the chief antiseptics used before and since the antiseptic era, including the most recent members of this group of remedies.

UNDER the will of the late Dr. Alonzo Clark, a scholarship was endowed at the College of Physicians and Surgeons, New York, for the promotion of the discovery of new facts in medical science. This scholarship has an annual income of about nine hundred dollars, and the Faculty of the College have worthily bestowed it for a term of three years upon Dr. T. Mitchell Prudden.—*Medical News*, Aug. 10, 1889.

MISCELLANY.

TENTH INTERNATIONAL MEDICAL CONGRESS AT BERLIN, 1890.—We the undersigned, do hereby give notice that, according to the resolution passed at the Washington meeting September 9, 1887, the Tenth International Medical Congress will be held in Berlin.

The Congress will be opened on the 4th and closed on the 9th day of August, 1890.

Detailed information as to the order of the proceedings will be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th of September in the current year.

Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles, and add at the same time our cordial invitation to the Congress.

VON BERGMANN,
VIRCHOW,
WALDEYER.

Berlin NW., Karlstrasse 19, July 8, 1889.

HEALTH IN MICHIGAN, JULY, 1889.—For the month of July, 1889, compared with the preceding month, the reports indicate that diarrhœa, cholera morbus, cholera infantum, dysentery and inflammation of the bowels increased in prevalence.

Compared with the preceding month, the temperature in the month of July, 1889, was higher, the absolute humidity was more, the relative humidity and the day and night ozone were less.

Compared with the average for the month of July in the three years, 1886–88, bronchitis increased and cholera infantum, cholera morbus and dysentery were less prevalent in July, 1889.

For the month of July, 1889, compared with the average of corresponding months in the three years 1886–'88, the temperature was lower, the absolute humidity was slightly less, the relative humidity was more, and the day ozone about the same, and the night ozone was less.

Including reports by regular observers and others, diphtheria was reported present in Michigan in the month of July, 1889, at 26 places, scarlet fever at 30 places, typhoid fever at 18 places, and measles at 13 places.

Reports from all sources show diphtheria reported at 3 place more, scarlet fever at 7 places less, typhoid fever at 2 places more, measles at 6 places less, than in the preceding month.

LETTERS RECEIVED.

Dr. Hiram H. Barney, Philadelphia; A. Rank, Fort Dodge, Ia.; Dr. Geo. E. Frothingham, Ann Arbor, Mich.; J. A. Sexton, Chicago; Witthoff, Marsily & Co., New York; Dr. J. D. S. Davis, Birmingham, Ala.; S. A. Brewster, Creston, Ia.; Dr. F. Randall, Malden, Mass.; Dr. A. S. von Mansfelde, Ashland, Neb.; E. P. Donnell Mfg. Co., Chicago; Dr. J. V. Shoemaker, Philadelphia; Dr. J. G. McDougal, New Lexington, O.; Dr. C. J. Smith, Derby, O.; Dr. T. D. Crothers, Hartford, Conn.; Dr. E. L. Shurly, Detroit; J. H. Bates, New York; Dr. Maris Gibson, Wilkesbarre, Pa.; Mackintosh Battery and Optical Co., Chicago; Dr. S. Pozzi, Paris, France; Pappenheim's Zeitungs-Verlag, Vienna, Austria; H. Hornfeld, Berlin, Germany; The Bancroft Co., San Francisco, Cal.; Charles H. Phillips Chemical Co., Lutz & Movius, J. Walter Thompson, New York; Mrs. J. F. Hopkins, Chicago; Edward McWhord, New York; Dr. D. J. Giarth, Frugality, Pa.; Dr. Wm. McCollom, Brooklyn, N. Y.; Dr. Henry H. Smith, Philadelphia, Pa.; Ward Bros., Jacksonville, Ill.; Dr. Wm. Brodie, Detroit, Mich.; Dr. H. Cushman, Oakdale, Neb.; Dr. L. L. McArthur, Chicago; Dr. W. C. Wade, Holly, Mich.; Dr. J. Little, Bloomington, Ill.; F. A. Davis, Philadelphia; Provident Chemical Works, St. Louis, Mo.; Dr. George E. Hubbard, W. H. Sheiffelin & Co., New York; S. R. Niles, Boston, Mass.; Dr. A. B. Judson, New York; Dr. J. H. Kellogg, Battle Creek, Mich.; Northwestern University, Evanston, Ill.; Dr. Samuel Hart, Marietta, O.; Dr. John S. Marshall, Green Spring, O.; Thomas Leeming & Co., New York; Dr. R. S. Sutton, Pittsburg, Pa.; H. Soule, Ann Arbor, Mich.; Dr. J. H. Breedlove, Ft. Smith, Ark.; H. C. Lewis, Baltimore, Md.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from August 3, 1889, to August 9, 1889.

Col. Andrew K. Smith, Surgeon, is granted leave of absence for seven days, by direction of the acting Secretary of War. Par. 12, S. O. 178, A. G. O., August 3, 1889.

Major Alfred A. Woodhull, Surgeon, is granted leave of absence for two months on account of sickness, with permission to leave the Div. of the Missouri, by direction of the acting Secretary of War. Par. 5, S. O. 178, A. G. O., August 3, 1889.

Major John H. Janeway, Surgeon, is hereby granted leave of absence for two months, with permission to apply for an extension of two months. Par. 3, S. O. 52, Hdqrs. Div. of the Pacific, July 29, 1889.

By direction of the Secretary of War, Capt. John J. Cochran, Asst. Surgeon, now on duty at Ft. Adams, R. I., will report in person to the commanding General Dept. of the Platte for temporary duty with troops *en route* to and at the summer camp at Ft. Robinson, Neb. Upon completion of this duty will return to his proper station. Par. 10, S. O. 180, A. G. O., August 6, 1889.

Capt. Louis M. Maus, Asst. Surgeon U. S. Army (Ft. Porter, N. Y.), is hereby granted leave of absence for twenty days, on surgeon's certificate of disability. Par. 2, S. O. 173, Hdqrs. Div. of the Atlantic, August 1, 1889.

By direction of the acting Secretary of War, First Lieut. William B. Banister, Asst. Surgeon, is relieved from further duty at Ft. Wingate, N. M., and will report in person to the commanding officer, Ft. Grant, Ariz., for duty at that station, relieving Capt. Arthur H. Taylor, Asst. Surgeon, who, upon being so relieved, will proceed to Ft. Wingate, N. M., and report in person to the commanding officer thereof for duty at that post. Par. 4, S. O. 178, A. G. O., August 3, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending August 3, 1889.

Asst. Surgeon P. H. Bryant, ordered to temporary duty on ironclads, Richmond, Va.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service for the Two Weeks Ending August 3, 1889.

Surgeon W. H. H. Hutton, when relieved at Mobile, Ala., to assume command of the Service at Baltimore, Md. July 23, 1889.

Surgeon George Purviance, when relieved at Baltimore, Md., to assume command of the Service at Philadelphia, Pa. July 24, 1889.

Surgeon J. M. Gassaway, ordered to New Orleans, La., for temporary duty. August 2, 1889.

Surgeon C. B. Goldsborough, granted leave of absence for thirty days. July 29, 1889.

Asst. Surgeon G. T. Vaughan, orders to Norfolk, Va., revoked; to proceed to Cairo, Ill., for temporary duty. August 1, 1889.

Asst. Surgeon J. F. Groenevelt, relieved from duty at Gulf Quarantine Station; ordered to Mobile, Ala., for temporary duty. August 3, 1889.